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Examining the interplay of coaching leadership styles, motivation, and anxiety: Insights from Filipino university student-athletes

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ABSTRACT

The Philippines' passion for sports is deeply ingrained in its culture and is evident in its participation in major national and international sporting events. Hence, it is crucial to determine a coaching leadership style for cultivating a solid coach-athlete relationship and facilitating the growth and achievement of motivated athletes. This study generally examined the associations between coaching leadership styles, motivation, and anxiety among Filipino university student-athletes at a public state university in Leyte province, the Philippines. It utilized a quantitative approach, specifically a descriptive cross-sectional survey and correlational design with 108 student-athlete respondents. Results revealed a statistically significant but weak positive association (r_s=0.304, p=0.001) between coaching leadership and student-athlete motivation, suggesting that athletes who perceive their coaches as effective leaders exhibit higher motivation levels. However, no significant association was found between coaching leadership and student-athletes' anxiety (r_s=-0.026, p=0.793), nor between student-athletes' anxiety and motivation (r_s=-0.157, p=0.106). These results emphasize the complexity of factors influencing anxiety, including performance pressure, competition intensity, or personal expectations. While no single leadership approach universally applies, a deep understanding of various coaching styles is crucial for cultivating an optimal coach-athlete relationship that enhances motivation and performance.

KEYWORDS

Anxiety; Coaching Leadership Styles; Motivation; Student-athletes; Sports

1. INTRODUCTION

One of the most important aspects of a coach's leadership style is how well they inspire their team to perform at their highest level and reduce any anxiety an athlete may have before a competition. Such an approach supports the ability of athletes to remain consistent, work hard, and excel. Athletes must be actively motivated to meet the intended goals and strive for better athletic performance. The leadership principles that coaches employ may have a lasting influence on athletes' motivation (Jin et al., 2022; López de Subijana et al., 2023) and are essential for promoting success in sports education and athletic performance (Fransen et al., 2018).

Furthermore, student-athletes from one public state university in the Province of Leyte showcased impressive performances across various sports during the recently concluded State Colleges Universities Athletic Association (SCUAA) in the Philippines, proving that student-athletes are inclined in terms of physical activities. Their athletic performance may be attributed to their coaches' leadership and training. Nonetheless, it is believed that while some athletes may be exceptional at what they do, others may need to give their all when competing. Other studies (Kadwe, 2019; Sen, 2023; Zhang, 2023) also reported that prevailing circumstances like anxiety may hamper athletes' ability to compete.

Coaching leadership styles are crucial in shaping an athlete's motivation and anxiety levels. The Multidimensional Model of Leadership (MML) by Chelladurai (2007) suggests that effective leadership in sports is influenced by three key factors: required leadership behavior (expectations set by the organization or governing body), preferred leadership behavior (the style most desired by the athletes), and actual leadership behavior (the coach's exhibited leadership style). According to MML, an optimal leadership style emerges when these three dimensions align, leading to higher athlete satisfaction and performance. Meanwhile, incorporating the concept of transformational leadership into the MML suggests that effective leaders inspire and motivate their followers by creating a vision, promoting an environment of intellectual stimulation, and providing individualized consideration. In sports, transformational coaches serve as role models, encourage athletes to surpass their self-imposed limitations, and create a positive team culture (Erikstad et al., 2021; Yang & Villanueva, 2024). Studies have shown that transformational coaching enhances motivation, self-confidence, and overall athletic performance (Corti et al., 2023; López de Subijana et al., 2023; Shuangxi & Eugenio-Villanueva, 2023).

Other leadership styles, such as democratic and autocratic coaching, have also been linked to athlete motivation and anxiety levels. According to Horn et al. (2011), motivated athletes prefer democratic leadership styles, whereas unmotivated athletes prefer autocratic styles and punishment-oriented feedback. Coaches must develop a strong and positive relationship with their players and be committed to the team's success. They may employ various tactics and techniques to lead and improve athletes' performance, including instructions, training, and democratic and autocratic leadership.

Several studies (Adzhar et al., 2019; Kim et al., 2021; McMullen et al., 2020) have explored coaching preferences, performance, anxiety, and motivation among student-athletes, focusing on specific sports such as football (Ismail et al., 2020), taekwondo (Setiawan et al., 2023), and handball (Mokhtar et al., 2021). However, most of these studies were conducted internationally, and research on this topic in the Philippines remains limited. A preliminary review of local literature identified only four related studies, stressing the need for further investigation. These include studies on coaching behavior styles and athletes' sports satisfaction (Micua et al., 2024), the impact of sports on student-athletes' mindsets during COVID-19 (Peralta et al., 2024), sports confidence and motivation to practice (Espinol et al., 2020), and the relationship between sports performance anxiety and confidence (Juezan & Osorno, 2022). While previous studies have examined coaching leadership with either motivation or anxiety, there is a limited understanding of the interplay between all three factors. The current study aims to bridge this gap by providing empirical data on how coaching leadership styles influence motivation and anxiety among university student-athletes.

In view thereof, this study examined the coaching leadership styles, motivation, and anxiety in university student-athletes at one public state university in the Province of Leyte, the Philippines. Specifically, this study determined (1) the level of coaching leadership styles as perceived by the student-athletes, (2) the level of student-athletes' motivation towards the sports played, (3) the student-athletes' anxiety level towards the sports played, and (4) the associations between coaching leadership styles, motivation, and anxiety among student-athletes. Considering existing literature and empirical evidence that suggest mixed or inconclusive findings on the link between coaching leadership, motivation, and anxiety in sports, this study hypothesizes no significant associations between the study variables. Given that the Philippines' passion for sports is deeply rooted in its culture and is evident in its participation in major sporting events conducted nationally and internationally, this study anticipates assisting coaches in identifying the most effective leadership styles for nurturing a strong coach-athlete relationship. Understanding the interplay between

leadership, motivation, and anxiety can help coaches develop strategies to build successful and motivated athletes. This study argues that a proficient leadership style, when properly implemented, can help alleviate sports-related anxiety while enhancing student-athletes' motivation.

2. METHODS

2.1. Design

This study employed a quantitative approach, specifically a descriptive cross-sectional survey and correlational design. The cross-sectional survey was chosen because it allows for assessing coaching leadership styles, motivation, and anxiety at a specific time, particularly during the onset of a major sporting event in Leyte. This design is appropriate for capturing snapshot data that reflects athletes' perceptions and psychological states in an actual setting (Akar et al., 2020; Stewart, 2025). Meanwhile, the correlational design was utilized since the study is also concerned with examining the interplay between coaching leadership styles, motivation, and anxiety. It is suitable for identifying patterns and associations between variables without manipulating conditions (Khidhir, 2021; Kumar, 2024), making it ideal for understanding naturally occurring relationships in sports environments.

2.2. Study Setting and Participants

This study was conducted at a public state university in the Province of Leyte, the Philippines. The locale is one of Leyte's oldest and largest state universities, with one of the highest student-athlete populations. Similarly, it participates in major sporting events performed regionally, nationally, and abroad. A total of 108 student-athletes were purposefully selected as study respondents. A purposive sampling method is a non-random sampling method in which respondents are selected because they possess the specific qualities required for the study (Andrade, 2020; Bhardwaj, 2019). While this method effectively targets relevant respondents, it may introduce potential biases, such as self-selection bias, where more engaged or motivated athletes may be more likely to participate. This limitation was mitigated by ensuring a diverse representation of athletes across different sports and experience levels. Table 1 presents socio-demographic characteristics of participants.

Table 1. Distribution of student-athletes according to profile variables

Variables	Category	f (n=108)	Percentage
Age	18-20 years old	41	37.96
	21-23 years old	64	59.26
	24-26 years old	3	2.78
Sex	Male	55	50.93
	Female	53	49.07
Type of Sports	Individual	7	35.00
	Dual	4	20.00
	Team	9	45.00
Years of Experience	1 year	19	17.59
	2 years	34	31.48
	3 years	39	36.11
	4 years or more	16	14.82

The inclusion criteria included: (1) currently enrolled student-athletes under the supervision of a coach for at least one sports season; (2) 18-26 years old, which is a typical age range for university students; and (3) those who voluntarily agreed to participate in the study and provided informed consent. Meanwhile, the exclusion criteria included (1) athletes who were inactive in any sports team or had taken a leave of absence from sports participation and (2) student-athletes with less than one season of experience with their current coach or team. This criterion was applied because a minimum of one season is necessary for athletes to develop a meaningful perception of their coach's leadership style and its impact on their motivation and anxiety. Shorter periods may not provide sufficient exposure for valid assessment.

Of the 108 purposefully selected student-athlete respondents, almost three-fifths (59.26%) were aged 21-23, nearly two-fifths (37.96%) were aged 18-20, and only three were aged 24-26. Furthermore, the number of male and female respondents is almost equal, with 55 males and 53 females. The majority were engaged in team sports (45.00%), while 20.00% participated in dual sports, and 35.00% competed in individual sports. In terms of years of experience, most student-athletes had three years of experience (36.11%), followed by those with two years (31.48%) and one year (17.59%). The respective sports the respondents play are also presented in Table 1.

2.3. Research Instruments

The Leadership Scale for Sports (LSS) developed by Chelladurai and Saleh (1980) was adopted to determine the perceived coaching leadership styles by student-athletes. The scale consisted of a total of 40 statements and a total of 5 dimensions, which are training and instruction

(TaI), democratic behavior (DB), autocratic behavior (AB), social support (SS), and positive feedback (PF). The LSS was composed of sample statements such as *"My coach sees to it that every athlete is working to his or her capacity"* and *"My coach explains to each athlete the techniques and tactics of the sport,"* to which the respondents chose their answers with each statement using the corresponding degree: 1- never, 2- seldom (25% of the time), 3- occasionally (50% of the time), 4- often (75% of the time), and 5- always. Similarly, to determine the extent of the perceived coaching leadership styles by the student-athletes in this study, the scale was interpreted as follows: "1- Very Poor (VP), 2- Poor (P), 3- Fair (F), 4- Good (G), and 5- Excellent (E)".

Furthermore, the revised Sport Motivation Scale (SMS-II) developed by Pelletier et al. (2013) was adopted to determine student-athletes' motivation towards the sports played. The SMS-II consisted of a total of 18 statements and a total of 6 dimensions, which are intrinsic regulation (IcR), integrated regulation (IdR), identified regulation (IfdR), introjected regulation (IjdR), external regulation (ER), and non-regulation (NR). The SMS-II comprised sample statements such *as "I used to have good reasons for doing sports, but now I am asking myself if I should continue"* and *"Because I find it enjoyable to discover new performance strategies."* The responses of student-athletes were interpreted as 1- Not at all Motivated (NM), 2- Slightly Motivated (SM), 3- Moderately Motivated (MM), 4- Very Motivated (VM), and 5- Extremely Motivated (EM).

The Sport Anxiety Scale-2 (SAS-2) developed by Smith et al. (2006) was likewise adopted to measure the anxiety level of the student-athletes. The SAS-2 contained 15 statements that are associated with three dimensions: worry (W), somatic anxiety (SA), and concentration disruption (CD), each with five statements. The SAS-2 comprised sample statements such as *"My muscle feels tight because I am nervous"* and *"I worry that I will mess up during the game."* The statements assessed the anxiety competitive trait of the athletes during or before the competition. The responses of student-athletes were interpreted as 1- Never (N), 2- Rarely (R), 3- Often (O), and 4- Always (A).

To ensure the validity and cultural relevance of these instruments for use in a Filipino university setting, content validation was conducted by a panel of experts, including three university coaches and two academic educators specializing in sports science. They assessed the scales for relevance, clarity, and applicability to Filipino student-athletes, ensuring the constructs remained intact while being contextually appropriate. Additionally, a pilot test was conducted with 30 student-athletes from a different institution to evaluate comprehensibility, reliability, and cultural fit. The Leadership Scale for Sports (LSS) demonstrated acceptable to good internal consistency, with

Cronbach's alpha values for each dimension: training and instruction (α = 0.76), democratic behavior (α = 0.79), autocratic behavior (α = 0.75), social support (α = 0.78), and positive feedback (α = 0.80).

Similarly, the Sport Motivation Scale-II (SMS-II) presented acceptable to good reliability, with Cronbach's alpha values for intrinsic regulation (α = 0.81), integrated regulation (α = 0.79), identified regulation (α = 0.80), introjected regulation (α = 0.79), external regulation (α = 0.76), and non-regulation (α = 0.78), confirming its suitability for measuring sports motivation in this context. The Sport Anxiety Scale-2 (SAS-2) also exhibited acceptable to good consistency: worry (α = 0.76), somatic anxiety (α = 0.79), and concentration disruption (α = 0.79). The pilot test confirmed that the instruments were precise, reliable, and culturally appropriate for the target population, ensuring their effectiveness in this study.

2.4. Data Gathering Procedure and Ethical Considerations

Before gathering data from the student-athletes, the researchers sought permission from the head of the school to conduct the study. After securing approval, the researchers proceeded to data gathering. Informed consent was obtained from the student-athletes. Throughout the data-gathering process, voluntary participation was observed; there was no pressure for student-athletes to join, and there were no consequences for declining. The researchers personally distributed the survey questionnaires and provided clear instructions and information about the study's objectives to the student-athletes. Additionally, they were given 15 to 20 minutes to answer the survey questions. The researchers collected the questionnaire once the student-athletes had completed the survey by answering all the questions. Data gathering for this study took place over four weeks, from April to May 2024. Further, the gathered data were used solely for the study and treated confidentially. The anonymity of the student-athletes was also ensured.

2.5. Data Analysis

The gathered data were presented in tabular and textual forms. Frequency counting, percentages, and median measures were used to determine the levels of perceived coaching leadership styles by student-athletes, motivation, and anxiety toward the sports played. The Spearman's rank correlation coefficient (Spearman's rho) was utilized to examine the associations between coaching leadership styles, motivation, and student-athlete anxiety. Given the nature of the data, this statistical tool was chosen because it is well-suited for ordinal-scale data and does not require assumptions of normality. Spearman’s rho assesses the strength and direction of monotonic relationships, making it appropriate for measuring associations between ranked variables in this

study. The gathered data was processed and analyzed using the JAMOVI statistical software. Additionally, Microsoft Excel was used for initial data cleaning, including handling missing values and checking for inconsistencies before statistical analysis.

3. RESULTS AND DISCUSSION

3.1. Level of coaching leadership styles as perceived by the student-athletes

Table 2 presents the student-athletes' perceptions of coaching leadership styles.

Table 2. Coaching leadership style as perceived by the student-athletes

Levels	Excellent f (%)	Good f (%)	Fair f (%)	Poor f (%)	Very Poor f (%)
Training and Instruction	66 (61.11)	39 (36.11)	3 (2.78)	—	—
Democratic Behavior	58 (53.70)	42 (38.89)	7 (6.48)	1 (0.93)	—
Autocratic Behavior	26 (24.07)	58 (53.70)	21 (19.44)	3 (2.78)	—
Social Support	31 (28.70)	53 (49.07)	20 (18.52)	2 (1.85)	2 (1.85)
Positive Feedback	57 (52.78)	43 (39.81)	8 (7.41)	—	—

Note. *N= 108; Mdn (TaI)= 5 (E); Mdn (DB)= 5 (E); Mdn (AB)= 4 (G); Mdn (SS)= 4 (G); Mdn (PF)= 5 (E)*

The result showed that a significant portion of the student-athletes rated their coaches' leadership as "excellent" across multiple leadership dimensions, including training and instruction (61.11%), democratic behavior (53.70%), and positive feedback (52.78%). Meanwhile, student-athletes rated coaches' autocratic behavior and social support as "good," with only 24.07% and 28.70%, respectively. The median ratings for training and instruction, democratic behavior, and positive feedback were consistently high, indicating a widespread perception of excellence in these areas. This suggests that while coaches excel in certain leadership aspects, there may be areas for improvement, particularly in autocratic behavior and social support, to ensure a more practical sports coaching approach.

Interestingly, while several studies (Kamarul Bahrain et al., 2024; Caruzzo et al., 2021; Gathwe & Mugala, 2024) often viewed autocratic behavior negatively, in this study, it was still rated as "good" rather than poor. This may suggest that certain aspects of autocratic leadership, such as discipline, authority, and sport-specific demands, are perceived by some student-athletes as beneficial within the context of sports training, particularly in environments where clear direction and firm decision-making are valued. Additionally, cultural factors may play a role, as Filipino athletes may

be more accustomed to hierarchical leadership structures, making them more receptive to some level of autocratic coaching.

The study by Shehu et al. (2019) found that athletes perceived effective coaches as those who provided high social support, training, and instruction while exhibiting low autocratic behavior. This corroborates the results of this present study, which also revealed that the perceived coaching leadership styles by student-athletes are high in terms of training and instruction, democratic behavior, positive feedback, and being "good" at autocratic behavior and social support. Moreover, in another study conducted by Mokhtar et al. (2021), handball athletes' top choices for coach leadership styles were positive reinforcement, and next to it were instruction and training, democratic behaviors, social support, and autocratic behavior.

Moreover, perceptions of leadership styles may differ based on gender. Previous studies (Adzhar et al., 2019; Cotterill et al., 2020; Mokhtar et al., 2021) suggest that male and female athletes perceive leadership styles differently, with females generally preferring more social support and being more susceptible to emotional influence, while males tend to favor training, instruction, and role modeling. Democratic coaching styles improve the coach-athlete relationship, leading to higher motivation and satisfaction among collegiate athletes (Jin et al., 2022). Kim et al. (2021) also mentioned that democratic-style coaches in artistic swimming led to better enjoyment and intent to continue involvement. In contrast, autocratic leadership styles have no meaningful impact on athletes' intent to continue.

3.2. Level of student-athletes' motivation towards the sports played

Table 3 illustrates the student-athletes' motivation toward the sports they play. The result revealed high motivation levels across various regulatory types, with a substantial majority classified as "extremely motivated" in categories such as intrinsic regulation, integrated regulation, identified regulation, and introjected regulation. It suggests that student-athletes are deeply engaged with their sports for reasons intrinsic to themselves and integrated with their values and identities. Conversely, motivation stemming from external factors or lacking regulation appears less prevalent. This could mean student-athletes have a solid internal drive and commitment toward their sports, indicating a supportive and fulfilling sporting environment that nurtures intrinsic motivation and personal investment.

Table 3. Level of the student-athletes' motivation toward the sports played

Levels	Extremely Motivated f (%)	Very Motivated f (%)	Moderately Motivated f (%)	Slightly Motivated f (%)	Not at all Motivated f (%)
Intrinsic Regulation	94 (87.04)	9 (8.33)	5 (4.63)	—	—
Integrated Regulation	76 (70.37)	24 (22.22)	5 (4.63)	3 (2.78)	—
Identified Regulation	87 (80.56)	15 (13.89)	4 (3.70)	2 (1.85)	—
Introjected Regulation	59 (54.63)	30 (27.78)	15 (13.89)	2 (1.85)	2 (1.85)
External Regulation	38 (35.19)	24 (22.22)	28 (25.93)	8 (7.41)	10 (9.26)
Non-Regulation	38 (35.19)	29 (26.85)	15 (13.89)	14 (12.96)	12 (11.11)

Note. *N=108; Mdn (IcR)= 5 (EM); Mdn (IdR)= 5 (EM); Mdn (IfdR)= 5 (EM); Mdn (IjdR)= 5 (EM); Mdn (ER)= 4 (VM); Mdn (NR)= 4 (VM)*

In a study by Rosario (2023), intrinsic motivation was found to be the highest motivation factor of athletes concerning their sports participation, whereas the lowest was extrinsic motivation. Comparably to this study's result, the intrinsic regulation had the highest frequency percentage, and extrinsic and non-regulation were the lowest. This demonstrates that most student-athletes engage in their sports purely for a sense of self-determination and enjoyment. On the contrary, some student-athletes only play their sport in the hopes of winning something like a reward. As a result, for athletes to give their best and be invested in their sports, coaches must be highly adept at encouraging their internal motivation and adhering to external regulations. Sustaining motivation requires adapting to the needs of the team and individual athletes' needs (Macra-Oșorhean et al., 2021).

These study’s results further align with Ryan and Deci’s (2017) Self-Determination Theory (SDT), which highlights that intrinsic motivation is driven by an individual's need for autonomy, competence, and relatedness. The strong presence of intrinsic motivation among student-athletes in this study suggests that their sports participation fulfills these psychological needs, reinforcing their engagement and enjoyment. Additionally, integrated and identified regulations reflecting self-endorsed external motivations further support the SDT framework. In contrast, the lower prevalence of external and non-regulation suggests that external rewards or pressures play a minor role in sustaining motivation among these athletes.

Studies have shown variations in motivation levels when compared to other sports disciplines and age groups. For instance, several studies (Nielsen et al., 2014; Perry et al., 2017; Schmid et al.,

2021a; Vink et al., 2015) reported that intrinsic motivation is prevalent in both endurance and team sports, with team sports often encouraging intrinsic motivation through social interaction, while endurance sports also show a mix of intrinsic and extrinsic motivations. Furthermore, younger athletes rely more on extrinsic motivation than university-level athletes, as they still develop autonomy in their sports involvement (Padaki et al., 2017; Petranchuk, 2019).

Moreover, motivation and psychological training play an important role in sports. Athletes who lack motivation are unlikely to perform well and may become upset if they do not succeed (Sarraf, 2019; Schmid et al., 2021b). In contrast, Utama et al. (2021) observed that athletes who approach highly motivated training programs are likelier to achieve optimal success. Coaches can provide additional positive feedback to enhance athletes' motivation, particularly considering gender disparities in social support. Rogaleva et al. (2019) also mentioned using emotional method-based coaching techniques that coaches must employ in individual and team sports.

3.3. Student-athletes' anxiety level towards the sports played

Table 4 highlights salient results regarding student-athletes anxiety levels toward the sports they play.

Table 4. Student-athletes' anxiety level towards the sports played

Levels	Always f (%)	Often f (%)	Rarely f (%)	Never f (%)
Somatic Anxiety	15 (13.89)	36 (33.33)	41 (37.96)	16 (14.81)
Worry	41 (37.96)	36 (33.33)	29 (26.85)	2 (1.85)
Concentration Disruption	13 (12.04)	35 (32.41)	45 (41.67)	15 (13.89)

***Note**. N= 108; Mdn (SA)= 2 (R); Mdn (W)= 3 (O); Mdn (CD)= 2 (R)*

The result showed that anxiety is commonly experienced across multiple dimensions, with the majority reporting experiencing anxiety often to rarely in terms of somatic symptoms and concentration disruption. Additionally, some student-athletes experienced anxiety, notably in the form of worry, with 37.96% indicating that they worry "always." The result further demonstrates multiple aspects of anxiety in sports participation, as well as the importance of addressing specific anxiety dimensions to support athletes' well-being and performance.

Wilke et al. (2020) reported that a considerable anxiety level, specifically on the bodily dimension of the competition fear index, was observed in athletes, and to maximize success in a

match, athletes should have vital psychological well-being, pay careful attention to behavioral factors, and maximize their training. In this study, considering that most student-athletes often or rarely experience anxiety before or during a game, it may be due to their confidence and preparedness before playing their respective sports. A study conducted by Rintaugu et al. (2023) also revealed that coaches' leadership abilities, mastery of skill execution, and physical or mental readiness were the most substantial assets of sports confidence.

Sports anxiety can cause athletes to feel stressed and fearful as they worry about not meeting their coaches' expectations and may struggle to achieve competitive success. According to Peterson (2019), one of the causes of anxiety in athletes is when their coaches provide correction and feedback in front of others, including teammates, peers, or spectators. This can result in feelings of shame, embarrassment, and distress for the athletes. The fear of failure may also lead to negative consequences such as low self-esteem, loss of interest, negative behaviors, feelings of sadness, and upset.

3.4. Associations between coaching leadership styles, motivation, and anxiety of the student-athletes

Determining the link between coaching leadership and athletes' motivation is essential to examine whether coaches' leadership style relates to athletes' motivation. Table 5 shows a statistically significant but weak positive association ($r_s = 0.304$, $p = 0.001$) between coaching leadership and student-athletes' motivation level.

Table 5. Associations between coaching leadership, motivation, and anxiety of the student-athletes

Variables		Coaching Leadership Style	Motivation level	Anxiety level
Coaching Leadership Style	Spearman's rho	—		
	df	—		
	p-value	—		
Motivation level	Spearman's rho	0.304**	—	
	df	106	—	
	p-value	0.001	—	
Anxiety level	Spearman's rho	-0.026	-0.157	—
	df	106	106	—
	p-value	0.793	0.106	—

Note. ** p < .05, ** p < .01, *** p < .001*

While the strength of association is not very strong, it suggests that better coaching leadership is linked to higher motivation among student-athletes. It further implies that higher perceptions of effective leadership by coaches are associated with higher levels of motivation among student-athletes, suggesting that coaches' leadership styles play a crucial role in enhancing athletes' motivation in their respective sports. This study's result corroborated that of Nasiruddin et al. (2020), who likewise reported a positive association between the leadership styles utilized by the coaches and athletes' motivation. Meanwhile, a study conducted by Samson & Bakinde (2021) demonstrated that coaches' leadership styles, including democratic behavior, social support, training behavior, and rewarding behavior, significantly influence athletes' performance. Nonetheless, their study did not find any association between the autocratic behavior of the coach and athletes' motivation levels.

Sports administrators and coaches must grasp the significance of various leadership styles (Jin et al., 2022), as it affects the motivation level of student-athletes. A coach needs to gain the expertise needed to supervise the athletes properly, or it may result in better treatment and motivation, which could affect athletes' performance in sports or, worse, cause the athletes to quit. Vojvodić et al. (2020) noted that a coach's unprofessional behavior contributes to young athletes quitting their respective sports. It is then essential for coaches to handle their athletes effectively as well as recognize when to enforce certain leadership behaviors to preserve a positive working connection with their athletes.

The result further revealed no significant association (r_s = -0.026, p = 0.793) between coaching leadership and student-athletes' anxiety. This suggests that student-athletes' anxiety level has no bearing on the leadership styles of their coaches. While this study found no significant association between anxiety and coaching leadership styles, this does not necessarily mean coaching has no impact on anxiety. Other potential factors may also influence anxiety levels among student-athletes, including performance pressure, competition intensity, or personal expectations. Filipino student-athletes, in particular, often face high expectations from family members who view sports as a means of personal and financial success, which can contribute to heightened anxiety. Balancing rigorous training schedules with academic responsibilities may further exacerbate stress levels. Further, student-athletes may experience anxiety when participating in sports for reasons unrelated to coaching leadership styles. However, this does not rule out the possibility that different coaching leadership subtypes could have varying effects on athlete anxiety. Transformational leadership, for instance, is characterized by inspirational motivation, individualized consideration, and intellectual

stimulation, which could alleviate anxiety by nurturing a supportive and encouraging environment (Bass, 1985, as cited in Gomes, 2014; Chelladurai, 2007).

Nevertheless, other studies (Cho et al., 2019; Hagerty & Felizzi, 2023; Stephen et al., 2022) stated that placing athletes in an authoritarian coaching style that induces anxiety may negatively influence their overall well-being. Coaches who have controlling behavior (autocratic) influence the anxiety traits of athletes, which consequently leads to burnout. Conversely, athletes may experience less anxiety when their coaches demonstrate competence in controlling behavior and when there is a high frequency of autonomous behavior. Further, the subsequent results showing no significant association between coaches' leadership style and athletes' anxiety do not analyze the various behaviors and dimensions of leadership styles, nor do they consider the different dimensions of anxiety.

Similarly, the study by Rice et al. (2019) also noted other characteristics that could influence anxiety, including gender, age, physical injury, and athlete's frustration. Another critical factor to consider is the type of sport played, as prior research indicates that anxiety levels may vary between team and individual sports. Pluhar et al. (2019) showed that athletes who are playing individual sports are more likely to experience anxiety than athletes who are playing team sports. This could be attributed to a simple reason: athletes who participate in individual sports are more likely to face criticism when they do not perform well simply because they compete alone. On the other hand, athletes who play team sports have their teammates to support them. This distinction suggests that the psychological burden in individual sports may differ significantly from that in team sports, where social support from teammates may help mitigate anxiety. It is important to note that athletes must develop confidence and control anxiety to perform at their best, and sports psychologists, coaches, and trainers may assist them in achieving these goals (Stephen et al., 2022).

Furthermore, this study also found no significant association ($r_s = -0.157$, $p = 0.106$) between student-athletes anxiety and motivation. This result could imply that even if athletes feel nervous while participating in their sport, it does not necessarily mean they are less motivated to perform well. Conversely, being highly motivated to participate in sports does not guarantee that an athlete will feel relaxed when playing the game. An athlete might feel anxiety whether they are motivated or not. Silva et al. (2021) stated that intrinsic motivation is crucial in managing competitive anxiety among athletes. This may be because intrinsic motivation stimulates the reduction and control of anxiety symptoms during practice sessions and competitions. However, their study only focused on one specific motivation regulation and did not consider other regulations such as integrated,

identified, introjected, external, and non-regulation. Moreover, Reyes-Hernández et al. (2021) revealed that autonomous motivation was negatively connected to somatic anxiety, worry, and concentration disruption, indicating that internally motivated athletes may be less susceptible to displaying any of the anxiety aspects. In this study, most student-athletes exhibit solid intrinsic motivation, which makes them less likely to experience anxiety before or during their games.

4. LIMITATIONS

While this study provides valuable insights, several limitations must be acknowledged. First, the study relied on self-reported data, which may be subject to social desirability bias or individual perception differences. Second, the selection of athletes was limited to a single university, which may restrict the generalizability of the findings to broader athletic populations. Third, the study utilized a cross-sectional design, capturing data at a single point in time, which limits the ability to establish causal relationships between variables. To build on these findings, future studies should consider longitudinal designs to track coaching leadership styles, motivation, and anxiety changes over time. This would provide deeper insights into how these relationships evolve throughout an athlete's sporting career. Additionally, future studies are encouraged to adopt a mixed-method approach to provide deeper insights into the interplay of coaching leadership styles, motivation, and anxiety. Larger-scale studies should also consider additional factors such as gender differences, academic standing, years of sports experience, and overall emotional well-being to provide a more comprehensive analysis.

5. CONCLUSIONS

This study examined the interplay of coaching leadership styles, motivation, and anxiety among university student-athletes in a public state university in Leyte, Philippines. The results indicated that the coaching leadership style received excellent ratings from the student-athletes in various dimensions of leadership, such as training and instruction, democratic behavior, and positive feedback. There was a high level of motivation across various regulatory types, classified as "extremely motivated" in categories such as intrinsic regulation, integrated regulation, identified regulation, and introjected regulation. The result likewise demonstrated that the majority of student-athletes reported experiencing anxiety often to rarely in terms of somatic symptoms and disruption in concentration. Further, this study revealed a significant but weak positive association between coaching leadership and student-athlete motivation. Higher perceptions of effective leadership by coaches are associated with increased levels of athlete motivation. Coaches' leadership styles are vital in enhancing athletes' motivation in their respective sports. However, no significant associations were

found between coaching leadership styles and anxiety, as well as between anxiety and motivation. These results emphasize the importance of adaptable leadership approaches in encouraging a positive sports environment.

6. RECOMMENDATIONS

Based on the results of this study, coaches must develop the ability to adapt their leadership styles to different situations. It is important to note that there is no one-size-fits-all leadership style. However, this study found that coaching leadership styles emphasizing training and instruction, democratic behavior, and positive feedback were most effective in enhancing student-athletes' motivation. Coaches should prioritize these leadership dimensions while remaining flexible to adapt their approach based on the specific needs of their athletes and the demands of different sporting situations. To enhance coaching effectiveness, sports management should organize psychological seminars and training sessions, such as workshops on democratic leadership, athlete-centered coaching strategies, and emotional intelligence development. These programs will help reinforce student-athletes' psychological well-being and enable coaches to gain up-to-date knowledge on effective coaching leadership styles.

Additionally, supporting the personal and emotional development of student-athletes could inspire and encourage them to train hard, even when faced with challenges. Long-term monitoring of student-athletes' motivation levels should be implemented through periodic assessments, such as surveys or interviews, conducted at the beginning, midpoint, and end of each sports season. This will help track fluctuations in motivation and identify factors contributing to any decline, allowing for timely intermediation. This study further suggests the integration of sports psychologists into training programs to monitor the mental state of athletes, ensuring that they are physically and mentally prepared for the game. Sports psychologists should actively participate in pre-season mental conditioning, mid-season evaluations, and post-season reflections. They can provide mindfulness training, cognitive-behavioral techniques, and relaxation strategies to help student-athletes manage their anxiety effectively. Furthermore, sports administrators should create opportunities for student-athletes to participate in workshops focused on stress and anxiety management techniques, including visualization exercises, breathing techniques, and resilience-building activities. These strategies will equip athletes with practical skills to handle anxiety during training and competition.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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