THE RELATIONSHIP BETWEEN COACH'S LEADERSHIP STYLE AND ELITE ATHLETES' COMPETITIVE STATE ANXIETY IN MYANMAR

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Abstract

The purpose of this study is to examine the relationship between the leadership style of coaches and the competitive anxiety of elite athletes of the Myanmar National Sports Team before the 31st SEA GAMES. This study also attempts to identify the leadership styles of coaches and to describe the competitive anxiety level of athletes in the Myanmar National Sports Team. Participants were 105 elite athletes from the Myanmar National Sports Team. Participants completed a battery of questionnaires, including Leadership Scale for Sports (LSS) developed by Chelladuria and Saleh (1990), the Competitive State Anxiety Inventory-2 (CSAI-2) introduced by Martens et al. (1990b), and the demographic variables. The results of the descriptive analyses most of the participants perceived their coaches from Myanmar National Sports Team have the tendency to engage in training/instruction behavior, positive feedback behavior and democratic behavior of leadership style. Additionally, most of the elite athletes reported significantly low levels of both cognitive and somatic anxiety and high level of self-confidence. Further, the results of the multiple regression analyses reveled that a coach's training/instruction behavior decreased athletes' cognitive anxiety levels, and autocratic behavior and social support behavior increased athletes' cognitive anxiety levels. The coaches' autocratic behavior and democratic behavior also increased athletes' somatic anxiety. However, the research findings indicated that the positive impact on athletes' self-confidence from coaching behaviors such as training, instruction, social support, and positive feedback, as well as the negative effects resulting from autocratic and democratic behaviors, did not reach statistical significance. The current study has important implications and practical assistance to sports coaches, athletes, sports psychologists, and coaching education.

Keywords: *leadership styles, competitive state anxiety, elite athletes*

Introduction

Nowadays, there is little difference between winning and losing in the current sports world (Birrer & Morgan, 2010). Some studies have revealed that psychological matters are becoming more necessary for causes. Athletes in every sport and at all levels face competitions that lead to an increase in anxiety.

It is made clear that an athlete's psychological and emotional capacities are the predominant factors in sports performance. Some researchers proposed a dramatic decrease in sport performance when self-expected standards are generally achievable (Mesagno & Hill, 2013). It is the result of increased anxiety under perceived psychological pressure, which may be the main reason for substandard athletic performance (Potgieter, 2009). This leads to an increase in anxiety when anticipating any achievement situation, especially in sports competitions. Competitive anxiety in athletes occurs before athletes compete in a game and during matches, which affect an athlete's peak performance. Some investigator suggested that if an athlete wants to achieve optimal performance, he must have the ability to overcome his anxiety (Satiadarma, 2000). The Anxiety that occurs in athletes usually interferes with his appearance. Some researchers proposed that, the athlete has a fear of failing in the match or has the moral burden if he does not win the match (Husdarta, 2010; Rajan and Pushparajan, 2011).

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Consequently, athletes are more likely to feel anxiety in competition, and this is called competitive anxiety.

This is unsurprising, as sports psychology researchers have somewhat unanimously agreed that competitive sport has the potential for high levels of stress and anxiety (Hanton et al., 2015). Equally, practicing and employing a range of psychological strategies to combat potential negative emotional states such as sport-related anxiety has become an integral part of a competitive athlete's preparation (Hanton, et al., 2015; Weinberg & Gould, 2015). Anxiety is assumed to deteriorate the athletes' results in a reduction in overall performance (Hanin, 2000).

This unanticipated dimension of competitive anxiety is getting more attention in the psychology of games and exercise. It was found that "sports psychologists have believed that high intensity of anxiety in the course of competition is harmful, worsening performance and even a significant factor to drop out" (Raglin & Hanin, 2000). Usually, anxiety has the propensity to intimidate the well-being of a person because it elevates someone's worries and uncertainties (Landers, 1997). The athlete's overall performance in the sports is affected by anxiety (Raglin & Hanin, 2000).

Although the athlete's overall performance in the sports is affected by anxiety (Raglin & Hanin, 2000), anxiety should not always be perceived as a bad emotion; rather it could motivate the player to more focused and alert performance (Robinson & Freeston, 2015). For example, an athlete who manifests anxiety before and during the competition will experience an elevated level of arousal and feelings of tension and apprehension.

In sport psychology, some sport-specific instruments such as the Sports Competition Anxiety Test (SCAT; Martens, 1977) and Competitive State Anxiety Inventory (CSAI; Martens, Burton, Rivkin, and Simon, 1980) were also found to be better predictors of competitive anxiety than existing general measures such as the State-Trait Anxiety Inventory (STAI; Burton, 1998). Spielberger (1966) described state anxiety as varying from moment to moment and fluctuating proportionately to the perceived threat in a situation. Another conceptual advance was the separation of anxiety into the components of cognitive and somatic anxiety (Schwartz, Davidson, and Goleman, 1978; Wine, 1971).

Drawing on multidimensional anxiety theory (MAT) in sports psychology, Martens and colleagues (Martens, Vealey, Burton, Bump, and Smith, 1990) developed the Competitive State Anxiety Inventory-2 (CSAI-2) to measure the intensity of performers' cognitive and somatic responses, and also self-confidence. Cognitive anxiety is related to negative expectations or thoughts about performance, while somatic anxiety is how the nervous system becomes stimulated by the anxiety-including situation, resulting in a physiological response (Martens, Vealey, & Burton, 1990). Self-confidence is "one's belief in meeting the challenge of the task to be performed" (Woodman & Hardy, 2003). Subsequent research employing the CSAI-2 has provided evidence to support the separation of cognitive and somatic components as a function of antecedents (Jones, Swain, and Cale, 1991), temporal characteristics (Martens et al., 1990), performance outcomes (Parfitt and Hardy, 1993), goal attainment expectancies (Krane et al., 1992) and in response to interventions (Burton, 1990; Maynard and Cotton, 1993).

Leadership style has been identified as a crucial factor of competitive anxiety (Bum, 2013; Hong, 2008; Yeom, 2009). Furthermore, leadership is an indispensable part of human resource administration (Pyun, Kwon, Koh, & Wang, 2010). Leadership in sports also has a

considerable effect on athletes' success and failure (Ch'ng & Koh-Tan, 2006). More specifically, a coach's leadership style has an impact on athletes' psychological and emotional qualities and their development (Chelladurai, 1993).

Chelladurai's (1978) Multidimensional Model of Leadership Styles, provides an interactional approach to conceptualizing the leadership process which applies specifically to sport. In this model, athlete satisfaction and performance are viewed as the products of the interaction of three components of leadership: actual leader behavior, leader behavior preferred by the athlete and prescribed leader behavior. Actual leader behavior are those behaviors that leader exhibits irrespective of the norms or preferences of the team. Preferred athlete behaviors are those behaviors that are preferred by the athlete. Finally, prescribed leader behaviors are those that conform to the established norms of the organization. The degree of congruence among these three factors determines athlete's satisfaction and performance.

The Leadership Scale for Sports (LSS) was developed by Chelladurai and Saleh (1980). The LSS has been used in a variety of contexts to measure leadership in sport and the relationship between leadership and other variables. This measurement is made up of the five-dimensions of leader behavior, such as training/instruction, autocracy, democracy, social support, and positive feedback. Chelladurai and Saleh (1980) described the five-dimensions of leader behavior as follows: (a) training and instruction behavior is more likely to give importance to boosting athletes' performance by providing training and passing down strategies, skills, and techniques; (b) autocratic behavior is prone to restrict athletes' participation in the decision-making process and power over them; (c) democratic behavior is a participative leadership style in which athletes take an active participative role in the decision-making process on the game, strategies, goal settings, and so on; (d) social support behavior tends to focus its attention on the athletes' welfare, helping their personal problems, and building a sport part of enjoyment environment of the athlete's life; and (e) positive feedback is a pattern of behavior that reinforce to an initial act to be a strong behavior for an athlete's successful performance.

In the sports field, there have been relatively few studies that look into a link between coaches' leadership styles and competitive state anxiety in their athletes. In some studies, there were found that a coach's training/instruction and positive feedback behavior reduced athletes' cognitive anxiety levels (Hong, 2008), but autocratic behavior increased the anxiety level of athletes (Bum, 2013). Additionally, the more a coach displayed training/instruction behavior, democratic behavior, and social support behavior, the more athletes felt confident. Other researchers found that training/instruction and autocratic behavior from coaches were more likely to lower the cognitive anxiety levels of the college bowlers in Korea (Yeom, 2009). On the other hand, coaches' democratic behavior related to lower levels of self-confidence (Yeom, 2009).

From the above review and discussion, it is recognized that a coach's leadership style has an impact on athletic performance. However, it seems complicated to demonstrate precisely the possible relationship between a coach's leadership style and an athlete's competitive anxiety. In this regard, an effective coaching style can be depended upon a variety of situational factors in a sports setting. In Myanmar, the role of coaching style can be a variable that affects the competitive anxiety of athletes; nevertheless, there is a few study of systematic investigation of the relationships between leadership styles of coaches and athletes' competitive anxiety. In an attempt to illuminate these issues, the purpose of this study is to examine the relationship between the leadership style of coaches and the competitive anxiety level of elite athletes of the

Myanmar National Sports Teams before the 31st South-East Asian Games (31st SEA Games). In addition, this study also attempts to identify the leadership styles of coaches in the Myanmar National Sports Teams and to describe the competitive anxiety level of elite athletes in the Myanmar National Sports Teams.

More specifically, based on the previous literature reviewed, we generated the following hypotheses:

Hypothesis 1: There will be an effect of coaches' different leadership styles on the cognitive anxiety levels of athletes.

Hypothesis 2: There will be an effect of coaches' different leadership styles on the somatic anxiety levels of athletes.

Hypothesis 3: There will be an effect of coaches' different leadership styles on the self-confidence levels of athletes.

Method

Participants

Surveys were distributed to 127 elite athletes of martial arts and non-martial arts team in Gold Camp, Naypyidaw, Myanmar National Sports Team. A total of 105 usable data were returned; including 54 males (51%), 51 females (49%), who were between 17 and 39 years old. About 12.2% of the athletes were A-grate, 33.7% were B-grate and 54.1% were C-grade.

Measures

Leadership Scale: Leadership Scale for Sports (LSS) (Chelladurai, 1990) was used to measure a coach's leadership style. According to Chelladurai (1990), the LSS is classified into three versions that are (1) coaches' perceptions of their own behavior, (2) athletes' perceptions of their coaches' leader behavior, and (3) athletes' preferences for specific leader behaviors. In this study, the version of athletes' perceptions of their coaches' leader behavior was used to quantify a coach's leadership style.

The LSS was made up of five dimensions of coaches' leadership styles with 40 items. The LSS is broken down into 5 subscales: training/instruction behavior (TI), autocratic behavior (AB), democratic behavior (DB), social support behavior (SS), and positive feedback behavior (PF). Each item is rated on a 5-point Likert scale that ranges from *never (1), seldom (2), occasionally (3), often (4), and always (5)*. In this respect, when calculating the mean of the items for each of the five dimensions, the scores are respectively computed. The LSS has reasonable internal consistency reliability (Hastie, 1995), with subscale Cronbach's alpha ranging from .72 to .77. Bum and Shin (2015) also reported the coefficient alpha that is for training/instruction .92, democratic behavior .87, Social support .84, Autocratic behavior .74, and Positive feedback .75. Cronbach's alpha indicated acceptable for the LSS in current study, .87 for training/instruction, .68 for autocratic behavior, .83 for democratic behavior, .89 for social support behavior, and .92 for positive feedback behavior.

State Anxiety: The Competitive State Anxiety Inventory-2 (CSAI-2) constructed by Martens et al. (1990b) was employed to measure an athlete's competitive state anxiety level. It comprises 27 items that are rated on a four-point Likert Scale ranging from not at all (1),

somewhat (2), moderately (3), to always (4). Stated in detail, nine items account for each of three dimensions: cognitive anxiety, somatic anxiety, and self-confidence. The average score of each dimension is calculated and indicates that the higher the average score, the higher the athlete's cognitive anxiety levels and self-confidence before the game. In this study, internal consistency reliability (Cronbach's alpha) was to be found .85 for cognitive anxiety, .67 for somatic anxiety, and .80 for self-confidence.

Demographic Variables: This questionnaire included demographic variables of particular interest as control variables, that is, age, sex, education level, sport event, tenure, and sport performance status. Sport performance status is divided into three grades: A, B, and C. Athletes who have competed in the Southeast Asian and Asian Championships and have won gold medals are rated *A*-grade. She or he competed in the Southeast Asian and Asian Championships and won silver and bronze medals, and while those who have never won a medal are given a B-grade. Athletes who have reached the elite level and are training at the camp are given a *C*-grade.

Procedure

This sample was selected using a convenience sampling method, one of the non-probability sampling methods. Because of the nature of this study, it was difficult to select a random sampling technique. Permission for research with the participants was first obtained from Director General from Ministry of Sports and Youth Affairs in Naypyidaw. In April 2022, survey questionnaire was administered the 127 elite athletes of martial arts and non-martial arts, who Myanmar National Sports Team will compete in the 31th Sea Games at Vietnam, in May 2022. All data were collected at a period of rest time of athletes in accordance with each sports event. Before the survey, they were informed the purpose of the study and prospective research benefits, expected time duration, their survey was anonymous, they could refuse any time if the wished and confidentiality was also ensured. Valid responses were obtained from 83% of the respondents 105 elite athletes.

Results

Descriptive Statistics

Perception of the both martial arts and non-martial arts athletes, training/instruction dimension's average mean values are much higher than the theoretical value of 3 and democratic dimension's average mean values are only more than theoretical value of 3. As a results of non-martial arts athletes, positive feedback dimension's average mean value is much higher than the theoretical value, whereas as a results of martial arts athletes, positive feedback dimension implies only more than the theoretical value. According to the result of non-martial arts view, social support dimension's average mean value is only more than the theoretical value. However, social support dimension is lower than the theoretical value in view of martial arts athletes. Besides, considering the results of athletes from both events, there are low theoretical values in autocratic behavior dimension of coaches' leadership style in Myanmar. (See in Table,1). According to this survey, the most athletes perceived their coaches have the tendency to engage in training/instruction behavior, positive feedback behavior and democratic behavior of leadership style in Myanmar National Sports Team.

Additionally, as shown in table 2, the both martial arts and non-martial arts athletes reported significantly lower levels of both cognitive anxiety and somatic anxiety, but on the other hand both groups have higher level of self-confidence.

Table 1: The Mean Score of Athletes' perception of Coaches' leadership Style

	TI	AB	DB	SS	PF
Martial Arts	4.14 (.60)	2.84 (.80)	3.49 (.76)	2.95 (.90)	3.44 (.84)
Non-Martial Arts	4.42 (.41)	2.30 (.67)	3.93 (.57)	3.75 (.81)	4.35 (.64)

Notes*:* TI = training/ instruction, AB = autocratic behavior, DB = democratic behavior, SS = social support, PF = positive feedback.

Table 2: The Mean Score of Athletes' Cognitive Anxiety, Somatic Anxiety and self-Confidence

	CA	**SA**	**SC**
Martial Arts	1.98 (.55)	1.70 (.42)	3.20 (.47)
Non-Martial Arts	1.83 (.55)	1.70 (.33)	3.23 (.38)

Notes*:* CA = cognitive anxiety, SA = somatic anxiety, SC = self-confidence

Correlation Analysis

As shown in Table 3, cognitive anxiety was significantly negative correlation with training/instruction behavior ($r = -.20$, $p<.05$), however, there was positive correlation with autocratic behavior ($r = .26$, $p<.01$). Additionally, regarding somatic anxiety, significant positive correlation was found with autocratic behavior ($r = .22$, $p<.05$). Nevertheless, self-confidence was not significantly correlation with any leadership styles ($r = .13$, ns, $r = -.12$, ns, $r = .03$, ns, $r = .09$, ns, $r = .10$, ns).

Regression Analysis

In order to test our hypotheses, multiple regression analyses were conducted. Firstly, coaches' leadership styles accounted for 15% of the variance in athletes' cognitive anxiety ($R^2 = .15$, $F = 3.34$, $p<.01$). It was shown in Table 4, coaches' training and instruction behavior ($\beta = -.45$, $p<.01$) had negative effects on athletes' cognitive anxiety levels. Conversely, coaches' autocratic behavior and social support were shown to have the statistically positive effect on elite athletes' sense of cognitive anxiety ($\beta = .26$, $p<.01$; $\beta = .32$, $p<.01$) before the 31st SEA GAMES. It was described that coaches' democratic behavior and positive feedback behavior did not statistically have a significant impact on athletes' level of cognitive anxiety.

Secondly, multiple regression analysis was conducted to find out whether a coach's leadership style significantly predicted elite athletes' somatic anxiety before the game. Athletes' perception of coaches' leadership styles explained 11% of the variance in athletes' somatic anxiety ($R^2 = .11$, $F = 2.33$, $p<.01$). Coaches' autocratic behavior and democratic behavior were positive predicators to somatic anxiety ($\beta = .30$, $p<.01$; $\beta = .34$, $p<.01$) before the competition. Nevertheless, coaches' training and instruction behavior, social support and positive feedback behavior were not statistically significant effect on athletes' experience of somatic anxiety.

Lastly, regression analysis was performed to investigate whether a coach's leadership style could account for the elite athletes' self-confidence level. Athletes' perception of coaches' leadership styles explained 4% of the variance in athletes' self-confidence level (R^2 = .04, F = .68, p<.01). Surprisingly, all of the coaches' leadership styles did not statistically have a significant impact on athletes' level of self-confidence.

Table 3: Correlations of Leadership Styles and Competitive Anxiety

	1	2	3	4	5	6	7	8
1. TI	-							
2. AB	-.48***	-						
3. DB	.76***	-.49***	-					
4. SS	.72***	-.37***	.62***	-				
5. PF	.75***	-.48***	.66***	.73***	-			
6. CA	-.20*	.26*	-.06	.00	-.14	-		
7. SA	-.09	.22*	.05	.02	-.03	.56***	-	
8. SC	.13	-.12	.03	.09	.10	-.20*	-.00	-

Note*:* *p<.05, **p<.01, ***p<.001, TI = training/instruction, AB = autocratic behavior, DB = democratic behavior, SS = social support, PF = positive feedback, CA = cognitive anxiety, SA = somatic anxiety, SC = self-confidence.

Table 4: Results of multiple regression analysis with Coaches' Leadership Style as predictor of Elite Athletes' Cognitive Anxiety, Somatic Anxiety, and Self-Confidence

Predictor	**B**	**SE**	***β***	***t***
Cognitive Anxiety				
(Constant)	2.23	.61		3.66***
Training and Instruction	-.45	.18	-.45	-2.50*
Autocratic Behavior	.17	.08	.26	2.15*
Democratic Behavior	.21	.12	.28	1.78
Social Support	.19	.09	.32	2.08*
Positive Feedback	-.07	.11	-.10	-.63
Somatic Anxiety				
(Constant)	1.40	.43		3.28***
Training and Instruction	-.23	.13	-0.33	-1.81
Autocratic Behavior	.14	.06	.30	2.53*
Democratic Behavior	.18	.08	.34	2.16*

Predictor	**B**	**SE**	***β***	***t***
Social Support	.05	.06	.11	.70
Positive Feedback	.02	.07	.05	.32
Self-Confidence				
Constant	3.00	.51		5.94***
Training and Instruction	.17	.15	.21	1.10
Autocratic Behavior	-.05	.07	-.10	-.80
Democratic Behavior	-.12	.10	-.20	-1.18
Social Support	.01	.08	.01	.07
Positive Feedback	.01	.09	.02	.12

R^2 = .15, F = 3.34**, R^2 = .11, F = 2.33*, R^2 = .04, F = .68, *p <.05, ***p <.001

Discussion

The primary purpose of the present study was to examine the purpose of this study is to examine the relationship between the leadership style of coaches and the competitive anxiety level of elite athletes of the Myanmar National Sports Team before the 31st SEA GAMES. This also attempts to identify the leadership styles of coaches and to describe the competitive anxiety level of athletes in the Myanmar National Sports Team.

The first important finding of our research is that most of the participants perceived their coaches have the tendency to engage in training/instruction behavior, positive feedback behavior and democratic behavior of leadership style in Myanmar. Additionally, most of the elite athletes reported significantly lower levels of both cognitive and somatic anxiety. Also, they attained better results on the self-confidence subscale, which is regarded as an essential trait that leads to achievement performance.

The second finding showed that coaches' leadership styles significantly impact athletes' cognitive anxiety. The results of this study pointed out that a coach's training/ instruction behavior decreased athletes' cognitive anxiety levels. This finding supports previous research that the training/instruction behavior of a coach reduces the athletes' cognitive anxiety (Hong, 2008; Yeom, 2009), and it has appeared that athletes can get the psychologically and emotionally stability through accurate instructions from their coaches to overcome their stress and cognitive anxiety before the game (Bum, 2013). Furthermore, it was shown that autocratic behavior and social support behavior increased athletes' cognitive anxiety levels. That is, the autocratic behavior of coaches may result in stress and psychologically instability that could produce a high level of athletes' cognitive anxiety (Bum, 2013). And the curious findings in the current study also support the reciprocity theory (Uehara, 1995). Empirical evidence suggests that the receipt of social support for some individuals may be perceived as pressure, burden or annoyance (Reinhardt, Boerner, & Horowitz, 2006). Regarding democratic behavior and positive feedback behavior of leadership style, this result also supports the previous study of Bum's (2013) research on Korean junior golfers. Thus hypothesis 1 was supported.

Next, the third finding pointed out that regression analysis revealed the positive effect of coaches' autocratic behavior and democratic behavior on athletes' somatic anxiety, providing

support for hypothesis 2. According to Multidimensional Anxiety Theory (Martens et al., 1990), competitive anxiety would seem to have a cognitive way in terms of mental concerns as well as a somatic form like physiological and muscular activation. There are significantly predicted the occurrence of Somatic Anxiety, Worry, and Concentration Disruption when athletes perceived their coaches as authoritarian and coercive and they do not feel autonomous towards making sport-related choices (Isoard-Gautheur et al., 2012). Besides, Khan et al., (2015) proposed that democratic leadership should not be used when there is not enough time to get everyone's input (Khan & Jacob, 2015). In Myanmar National Sports Team, there was a decrease in the amount of training time for the 31st SEA GAMES because of COVID-19 restriction. Additionally, some researchers suggested that democratic behavior is preferred in Western societies (Schoel, Bluemke, Mueller & Stahlberg, 2011).

The last findings pointed out that there were no effects of coaches' any leadership styles on the self-confidence level of elite athletes in Myanmar National Sports Team. The results found that the training and instruction behavior, social support, and positive feedback of a coach positively impact the athletes' self-confidence level but are not statistically significant. In parallel, coaches' autocratic behavior and democratic behavior have negative effects on athletes' self-confidence levels but are not statistically significant. Thus hypothesis 3 was rejected. These findings contradict the previous findings that coaches' training and instruction and positive feedback increase self-confidence level of junior athletes (Bum & Shin, 2015; Hong, 2008). It is assumed that there are significant differences between elite and non-elite athletes with many factors. Elite players may be more aware of their strengths and weakness, and are better able to have strong self-confidence and self-efficacy (Druckman & Bjork, 1994). Meanwhile, research looking for differences in Big Five personality traits between various sports, successful athletes show higher scores in the Big Five personality dimensions than non-athletes (Steca, Baretta, Greco, Addario, and Monzani, 2018). Based on the results of several studies, it shows that more successful athletes are more likely to have awareness, emotional stability, and self-confidence by themselves than less successful athletes. This study also suggests that elite athletes have their internal motivation and regulation of their behavior in everyday lives.

Conclusion

The current study has important implications and practical assistance to sports coaches, athletes, sports psychologists, and coaching education. Firstly, we can describe the leadership styles of coaches and the competitive anxiety level of athletes in the Myanmar National Sports Team. The effective leadership styles in our society can be identified that help us to become more and more achievement in the status of our sport. The results further highlight the importance of considering coaches' different leadership styles on the effect of athletes' competitive anxiety levels. This study provides coaches with information about which leadership style is the most likely to reduce athletes' competitive anxiety level in Myanmar society. It is hoped that the current findings can assist sport psychologists who are performing a foundation for developing systematic educational programs for leadership training and psychological skill training. Therefore, if the sports psychologists identified the effective leadership skill and psychological skill training program, our coaches and athletes could use these skills and strategies to adjust the optimal level of arousal and emotion during the competition.

In spite of the promising the present study has several notable limitations. The potential problem is that coaches' any different leadership styles have not significantly effect on athletes' self-confidence levels. This may due to the lack of statistical power related to the sample size. The importance of the sample size is crucial, and researches have proposed method to determine adequate samples sizes in order to obtain power in regression studies (Kelley & Maxwell, 2003). Increasing the sample may be helpful if this study is replicated.

Moreover, Chelladurai's Multidimensional Model (MML) theory was employed in this study. This theory proposes that "group performance and member satisfaction are considered to be a function of the congruence among three states of leader behavior – required, preferred, and actual" (Chelladurai, 1990, p. 329). Another potential problem is the leadership style measure used only a coach's actual behavior, as perceived by their athletes in this study. Consequently, further studies may be necessary to examine how concurrence in those three states of leader behavior will affect an athlete's competitive state anxiety level.

The current study conducted with the survey and quantitative method, which count on quantitative data. However, quantitative research methods have some limitations. Therefore, we should use a growing interest in qualitative research methods, such as observing participants, interviewing techniques, and analyzing documents in the follow-up studies.

A further limitation is that convenience sampling, one of the non-probability sampling methods, is used in this study. This method has a limit for generalization. A further hindrance is that the generalizability of the findings to the elite athletes' population is also limited. Additional research using a probability sampling procedure and other types of samples is necessary to ensure the generalizability of the results.

Lastly, the current research demonstrates the relationship between coaches' leadership styles and the athletes' competitive anxiety. Hence, future research may wish to test a meditational model to explore how affect competitive anxiety level (cognitive anxiety, somatic anxiety, and self-confidence) might mediate the link between coaches' leadership style and athletes' performance level.

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