

Sports Competition Anxiety and Socioeconomic Status: A Cross-Sectional Study of Women Weight Lifters

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Abstract The advancement in sports and games has led researchers to focus on their studies on excellence in sports performance. Numerous factors can influence the performance of athletes in sports. It is well-established that psychological and sociodemographic variables are nowadays the most critical. **Purpose:** The purpose of the study is: (i) to investigate the difference between socioeconomic status and sports competition anxiety of achievers and non-achievers; (ii) to analyse the influence of socioeconomic status (SES) and age on predicting sports competition anxiety (SCA); (iii) to assess the relationship between age, SES, and SCA on All-India female weightlifters. The study participants comprised 102 female collegiate athletes (Mean age = 20.94 years, SD = 2.337), ages 18–27 years, who were achievers and non-achievers. **Method:** Sports competitive anxiety and socioeconomic status were assessed using the sport competitive anxiety and socioeconomic status questionnaires. An independent t-test tested the difference between achievers and non-achievers. Relationships between socioeconomic status, sports competitive anxiety, and age were analysed by the Pearson product-moment correlation coefficient. **Result:** The results showed a significant difference in competitive anxiety between achievers and non-achievers ($p = .11$). However, there was no difference in socioeconomic status between groups ($p = .42$). The correlation analyses showed no significant relationship between sports competition anxiety and socioeconomic status ($r = .108$, $p = .011$), age, and sports competition anxiety ($r = .108$, $p = .530$). **Conclusion:** The study concluded that a moderate level of anxiety helps to achieve

peak performance and that there is no relationship among socioeconomic status, sports competition anxiety, and age. The research findings may help the athletes to undergo specific psychological training programs to reduce anxiety.

Keywords Socioeconomic Status, Sports Competition Anxiety, Age, Female Weightlifters

1. Introduction

Sport has always been an essential component of life for humans and has served as a way to attain physical and mental excellence. Concerning the overall development of various sports and games, more researches were conducted in the past that focused on improving physical sports performance [1],[2]. However, after a thorough investigation, researchers are concentrating on the psychological (anxiety, emotional intelligence, motivation, etc.) [3]–[6] and demographic (socioeconomic, occupation, education, etc.) [7]–[10] effects of physical activity and sports performance.

Sports competition anxiety is one of the most essential factors that can affect the result of a sports performance [11], [12]. Researchers have focused nearly four decades on investigating the link between sports competition anxiety and sports performance. They attempted to illuminate the relationship by proposing multiple theories and models. "Catastrophe models" [13], [14], "reversal theory" [15], [16], "Multidimensional anxiety theory" [17],

and "zones of optimal functioning models" [18], [19] are examples.

"Anxiety as an emotional state (S-Anxiety) consists of subjective, consciously experienced feelings of tension, apprehension, nervousness, and worry, and heightened arousal or activation of the autonomic nervous system" [20]. Anxiety states of emotional reactions consist of physiological changes, disagreeable thoughts (worries), tension, trepidation, and anxiousness [20]. Humara [21] stated that anxiety could considerably impact performance because anxiety negatively affects a sportsman's psychological, physiological, and behavioral performance [11]. Factors such as level of sports ability and experience, body attractiveness, physical fitness, strength, age, and general physical abilities are significant factors that affect competition anxiety. Studies have revealed that athletes with more significant experience and higher self-perception tend to experience lower anxiety during competitions [22], [23]. The level of competition is an essential factor related to competition anxiety. Hence, anxiety predicts an athlete's performance because a negative relationship exists between anxiety and performance [25]–[28]. Peden [29] investigated the youth tennis player's sources of competitive anxiety and discovered that in players who experienced higher anxiety levels in specific situations, influenced by their personal circumstances, negative thoughts increasingly emerged, predominated thinking, eroded confidence, which negatively impacted their sports performance. Highly skilled athletes often experience nervousness and anxiety when confronted with competition outcomes and intense rivalries. However, their level of anxiety regarding their performance tends to be relatively low. On the other hand, low sports-level athletes exhibit a diminished sense of anxiety in competitive situations, but their confidence and apprehension about their actions are notably high [30].

Anxiety evaluates differently depending on gender and sport. Female and male athletes and team and individual athletes showed significant differences. Female and individual sports athletes showed high general sports competition anxiety [28], [31], and a study also showed a significant change in the anxiety level between females and males [32]. Sports performance anxiety is a common phenomenon, especially among young female athletes. Several factors influence the intensity and duration of its symptoms [33] and several studies show that female players are more anxious than male players [25], [34]–[37]. Furthermore, Kristjánsdóttir [38] stated that male handball players were reported to have lower anxiety than female handball players. However, conflicting studies show differences between females and males [39] and between individual and team players [40].

An individual's socioeconomic status influences accomplishments in all aspects of life. A person's participation and performance in sports are significantly influenced by socioeconomic status [41]–[43]. Telama [44] stated that the connection between young people's physical

activity and their families' socioeconomic status has existed for the last decades. Family socioeconomic status is a significant predictor of the physical activity level of young individuals. Additionally, socioeconomic status is an important variable influencing their participation in sports and physical exercise [45]. Quantitative and qualitative research has suggested that individuals with higher socioeconomic status tend to get more involved in physical activities than those with lower socioeconomic status [44]–[49]. Children of parents with higher total household income or education levels get involved in organized sports at a younger age and engaged in sports for a more significant number of months per year [50] and they also could demonstrate superior motor performance [51] than children with lower total household income or education levels and lower socioeconomic status, students with higher socioeconomic status family income, parental education level, and employment influence perceived barriers to sports participation. Poor socioeconomic status is closely linked to sociocultural obstacles to student involvement in sports [45]. However, Socioeconomic status correlates with physical inactivity and nonparticipation in sports [52]. Freitas [53] stated that Physical activity is unrelated to socioeconomic status, but there are differences in height, body mass, and skinfolds between groups with high and low socioeconomic status. A disparity was observed in the participation rates in organized sports between children from families with lower socioeconomic status and higher socioeconomic status. Specifically, research has shown that children from lower socioeconomic backgrounds exhibit lower participation rates in physical activity than their peers from higher socioeconomic backgrounds [43], [54].

Athletes with a higher socioeconomic status were shown to be more active in sports activities than those with a lower socioeconomic status. They can hire highly qualified, skilled, experienced, and trained coaches to help them improve their skills and eliminate their weaknesses [55] and also socioeconomic status has a significant impact on decisive adolescent athletes anthropometric variables and jumping performances [56]. Studies have been conducted to examine socioeconomic status variables among football players [57], swimming competence [58], and elite handball players [59]. The study results show that higher socioeconomic status was associated with better performance. Professional soccer players with higher education and from a higher socioeconomic background have more outside opportunities; if they decide to pursue a career in professional soccer, they must be compensated for their more significant outdoor opportunity costs [60]. Verma [61] stated that there is a connection between socioeconomic status and sports selection by young athletes because SES is a deciding factor in most situations where sportspersons are instinctively compelled to choose a sports field based on their socioeconomic status. To compare individual and team sports, players in team sports found lower socioeconomic scores than individual events

[62], [63]. However, socioeconomic status was unrelated to numerous traditional Australian team sports participation [64].

In the modern world, women have greater autonomy than ever in social, governmental, and economic spheres. With the involvement of female athletes, the competitive world has flourished. Women athletes from India significantly contribute to the field of weightlifting. We have noticed and recognized the overall performance standard of female participants in the Olympics, commonwealth, and other world championships.

After conducting an extensive review of the literature related to sports competition anxiety and socioeconomic status and its effect on various sporting events, the researcher discovered a gap in the existing literature since, to date, no research was conducted on socioeconomic status and sports competition anxiety, particularly in female All India interuniversity weightlifters. The current study aimed to focus on the following objectives: (i) to investigate the difference between achievers and non-achievers in Socioeconomic status (SES) and sports competition anxiety (SCA) (ii) to analyse the influence of socioeconomic status (SES) and age on predicting sports competition anxiety (SCA) (iii) to assess the relationship between age, SES, and SCA on All-India female weightlifters.

2. Materials and Methods

2.1. Participants

A total of 102 female collegiate athletes (mean age = 20.94 years, standard deviation = 2.337) in the age range of 18 to 27 were recruited for this study. The participants were randomly selected from the All-India inter-university women's weightlifting championship, held at the University of Calicut, Kerala, during the 2022-23 season. The participants were divided into two groups based on their achievement level: achievers and non-achievers. The participants who secured the position from 1 to 8 in the All-India Inter-University women's weightlifting championship qualified for the Khelo India University games. According to that, the participants who secured the position from 1 to 8 were considered achievers, and the participants who secured the position beyond that were considered non-achievers. The participants filled out the questionnaire one hour before the competition. Confidentiality was ensured, and participants could withdraw at any time. No compensation was provided to the participants.

2.2. Measures

Sport competition anxiety

The Sports Competition Anxiety Test (SCAT) [20] assesses the anxiety of the participants before the

competition. The test consists of 15 items, and the responses are made on a 3-point (hardly ever, sometimes, and often) Likert rating scale. Ten things are related to sports competition anxiety, and the remaining five are spurious. Including spurious items minimizes response bias toward the actual test items. The participants were requested to answer their usual feelings before the game., e.g., "Before I compete, I feel relaxed; before I compete, I feel calm; before I compete, I feel nervous," etc. The total SCAT score ranges from 10 to 30, scores below 17 indicate low anxiety, scores between 17 and 24 indicate moderate anxiety, and scores above 24 indicate high anxiety category.

Socio Economic Status

Socioeconomic Status scale [65] assesses the participant's Socioeconomic Status. The scale consists of 8 items. The questionnaire is related to occupation, education, cultural living or cultural standards, social participation, and income variables. The education variable has various classes of items related to parental education. Within this variable, eight distinct categories classify different levels or types of parental education. For example, "Doctorate Degree, Intermediate, Primary School," etc. The occupation variable is associated with the employment status of the parent or head of the family. Within this variable are seven different item categories, for example, High Administrative, Motor Driver, Un-employment or dependent on others, etc. The income variable is related to the average monthly income of the father /mother and includes income from all other sources. Within this variable are six different item categories, for example, above Rs.42000/-, between Rs. 5,001/- to 12,500/-, below 2,500/- etc. In cultural living, the variable has three category items related to the expenditures, such as those for newspapers, magazines, and pocket money. The social participation variable relates to the parent's club participation and their involvement or position in social, economic, political, or religious organization activities, for example, membership in one organization, holding office in one organization or holding office in multiple organizations. The total score of SESS ranges from 3 to 44. The scores are calculated and interpreted into five categories, including "upper class (above 34)", "upper middle class (25-33)", "lower middle class (16-24)", "lower class (7-15)", and "very lower class (6 below)", category.

2.3. Statistical Analysis

In descriptive statistics, mean, standard deviation, percentage, and frequency were used. In addition, the normality of the data was assessed by using skewness and kurtosis, SCAT (.343) and SESS (.447) skewness values, as well as SCAT (-.526) and SESS (-.893) kurtosis values, so they are typically distributed. To investigate the differences in sports competitive anxiety and

socioeconomic status (SES) of achievers and non-achievers, independent t-tests were used. Pearson's product-moment correlation coefficient statistics were used to examine the relationship between variables. The significance level is 0.05 used. The statistical software IBM SPSS Statistics 16.0 for Windows was employed for data analysis.

3. Results

For all 102 participants, 40 were considered achievers (39.2%) and 62 as non-achievers (60.8%). Table 1 suggests that the demographic information and the number of participants fall in each category of sports competition anxiety and socioeconomic status.

Table 2 shows the mean, standard deviations, T-value, and P-value of sports competition anxiety and

socioeconomic status. The T-test result suggests a significant difference in the mean value of sports competition anxiety ($t=2.608$), but there is no significant difference in the mean value of socioeconomic status ($t=.793$) of achievers and non-achievers of All India Interuniversity women weight lifters. The study's findings indicated that achievers exhibited significantly lower levels of competitive anxiety than non-achievers. This suggests that the achievement group experienced less anxiety related to sports competition, potentially contributing to better performance outcomes.

The correlation analyses presented in Table 3 show the relationships between sports competition anxiety and socioeconomic status ($r = .108$) and between age and sports competition anxiety ($r = .051$). These results indicate that, within the examined sample, there is no statistically significant correlation between these variables.

Table 1. Sociodemographic Characteristics of the Participants.

Variables	Category	Frequency	Percentage
Achievement level	Achievers	40	39.2
	Non-achievers	62	60.8
SCAT	low anxiety	21	20.6
	Moderate anxiety	70	68.6
	High Anxiety	11	10.8
SESS	upper class	3	2.9
	upper middle class	24	23.5
	lower middle class	24	23.5
	lower class	37	36.3
	lower lower-class	14	13.7

Note. N=102 (Achievers=40 and non-achievers = 62) Participants on average 20.94 Years old (SD=2.337)

Table 2. Comparisons of competitive anxiety and socioeconomic status between achievers and non-achievers.

Variables	Achievers		Non-achievers		t (102)	p	Cohen's d
	M	SD	M	SD			
SCAT	18.55	2.837	20.24	3.410	2.608	.011	0.538
SESS	16.35	9.726	17.82	8.768	.793	.429	0.15

Note: SD = standard deviation; p = significance level; *p < 0.05; t = t statistic value.

Table 3. Relationships between competitive anxiety, socioeconomic status, and age.

Variable	1	2	3
1. Age			
2. SCAT	.051		
3. SESS	–	.108	–

Note: SD = standard deviation; * = p < 0.05

Table 4. Regression analysis results for SCAT Scores as Dependent Variable.

Variable	R	R ²	Adjust R ²	F	p
socioeconomic status	.113	.013	.007	.639	.530
Age					

Note: * = p < 0.05

The regression analyses presented in Table 4 show that age and socioeconomic status were the predictors, and sports competition anxiety was the outcome variable. The obtained model was not significant with $F=.639$ and $P\text{-value}= .530$, Adjusted R-squared was $.007$.

Figure 1 shows the sports competition anxiety category out of 102 female weight lifters, 20.58% (N-21) of the

athletes are from low anxiety, 68.62% (N-70) from moderate anxiety, and 10.78% (N-11) from the high anxiety category.

Figure 2 shows the sports competition anxiety mean score of achievers (mean=18.55), and non-achievers (mean=20.24).

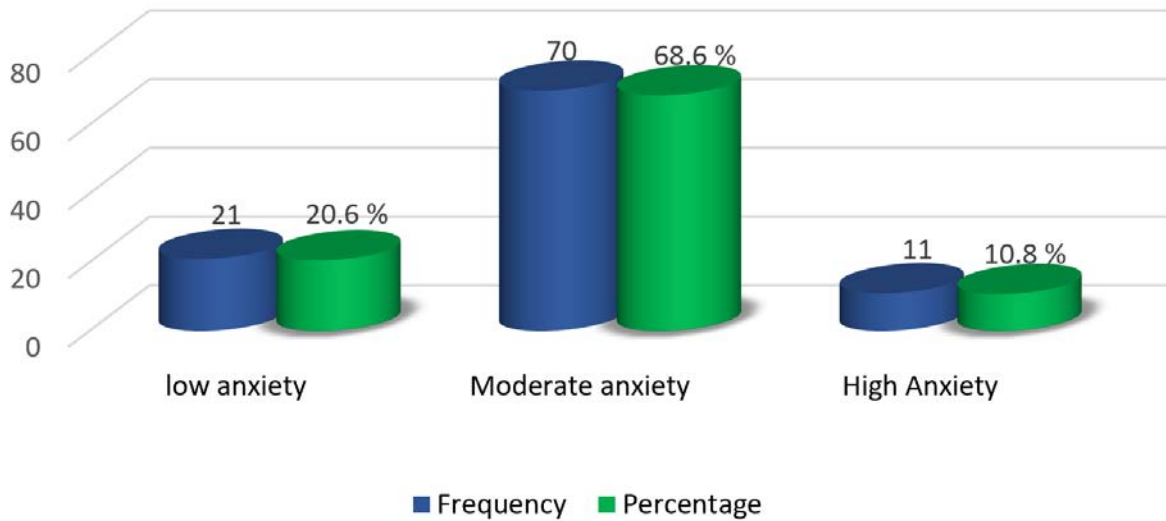


Figure 1. SCAT Category

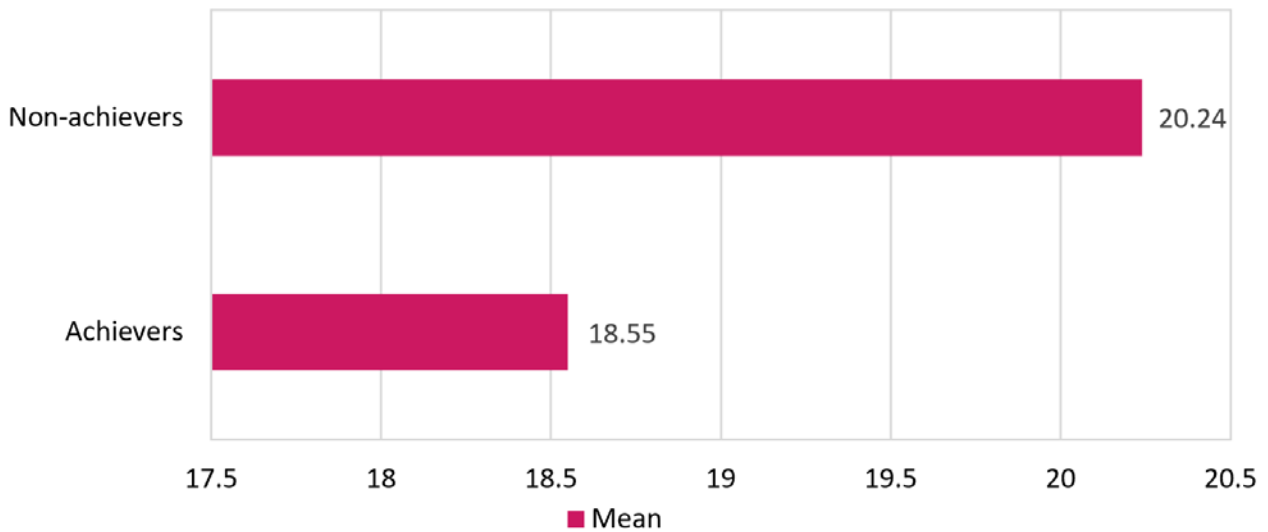


Figure 2. SCAT Score

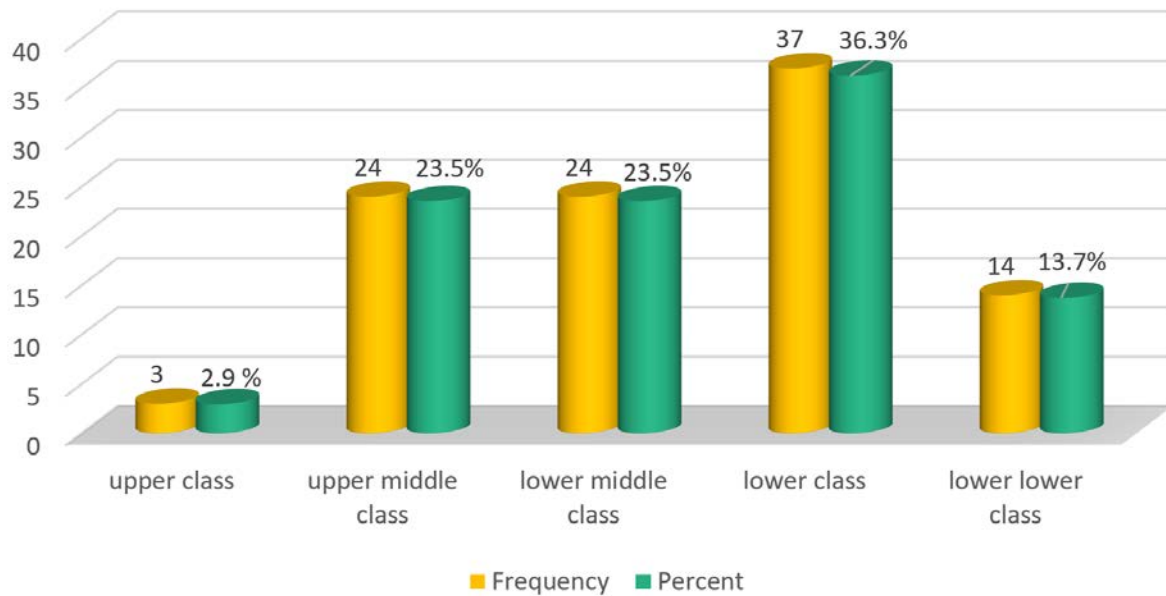


Figure 3. SESS Category

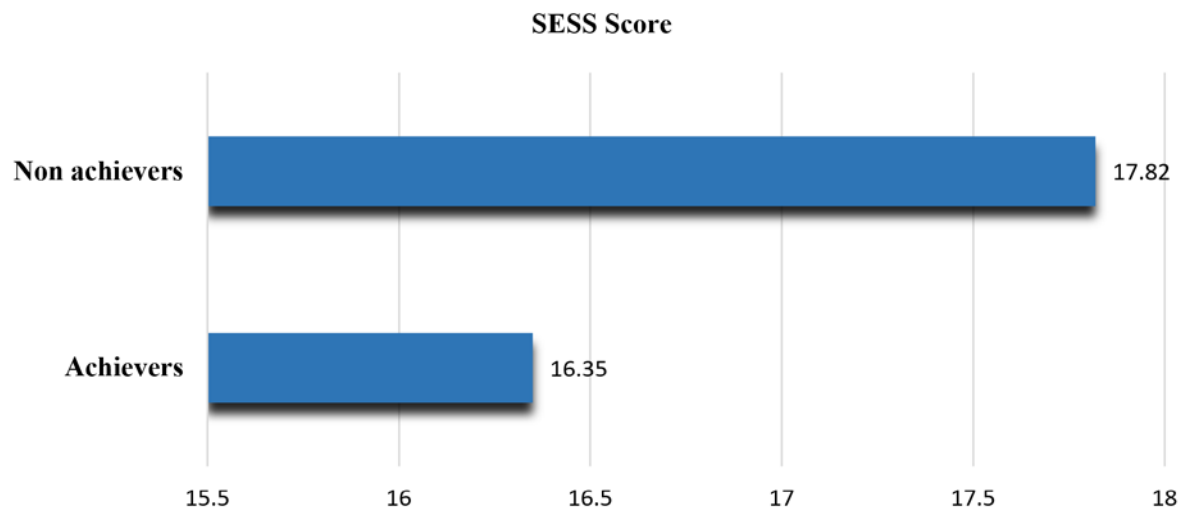


Figure 4. SESS Score

Figure 3 shows the distribution of participants according to socioeconomic status categories. Out of the 102 participants, 2.94% ($N = 3$) of the athletes belong to the upper class, 23.52% ($N = 24$) belong to the upper middle class, 23.52% ($N = 24$) belong to the lower middle class, 36.27% ($N = 37$) belong to the lower class, and 13.72% ($N = 14$) belong to the lower lower-class categories. These percentages represent the relative representation of athletes across different socioeconomic status categories in the study sample.

Figure 4 shows the socioeconomic status mean score of achievers (mean=16.35) and non-achievers (mean=17.82).

4. Discussion

The main objective of this study was to examine the

difference between sports competition anxiety and socioeconomic status in female All-India inter-university weight lifters according to category (achievers and non-achievers) and the relationship between socioeconomic status and sports competition anxiety and age.

Comparisons of sports competition anxiety and socioeconomic status of Achievers and Non-achievers

This research aimed to examine if a notable difference occurs in socioeconomic status and sports competition anxiety between achievers and non-achievers in women All India inter-university weight lifters. The study findings showed a significant difference in sports competition anxiety between achievers and non-achievers. Our findings align with the theory of individualized zones of optimal

functioning (IZOFs) proposed by [18], [19]. According to this theory, each person has a moderate degree of pre-performance anxiety, leading to their best performance because most of the participant's achievers and non-achievers' scores fall between 17 to 24 moderate-level anxiety categories [66] found that senior and Junior International and National male and female weightlifters fall under moderate anxiety with a score of 17 to 24.

Similarly, Ethiopian male football players have competitive anxiety at an average level [67] because competition anxiety is generally considered a regular aspect of engaging in competitive activities. However, if this anxiety surpasses a certain threshold, it can adversely affect performance, motivation, and overall enjoyment [68], [69]. This shows that, during competition, all weightlifters are not extremely relaxed or anxious. When pre-performance anxiety falls outside the optimal zone of functioning (IZOF), whether it is excessively high or too low, performance may decline [18], [19].

Similarly, previous studies [11], [70] revealed an inverse correlation between the athlete's SCAT score and performance. In other words, as the SCAT score increases (indicating increased anxiety), the athlete's performance decreases, and higher anxiety levels can negatively impact an athlete's performance [71]. Singh [26] reports a moderate negative correlation between pre-competition anxiety and performance among elite Indian university-level women football players. Similarly, Erduran [72] found a significant relationship between cognitive sports competitive anxiety and athlete performance.

In contrast to our findings, no significant difference in anxiety levels was observed between high-performance and low-performance groups among sailors [73]. Similarly, previous studies [74] showed a relationship between anxiety components and performance in table tennis players and male national-level basketball player's performance [75]. Iizuka [74] found that athletes with high or low anxiety levels may achieve peak performance if they manage it appropriately. According to this study, there was likely a noticeable difference in anxiety among female lifters regarding their achievement positions. Ntoumanis [76] found athletes with positive perceptions of their anxiety levels can employ effective coping strategies to manage anxiety during their performance. However, if athletes can understand that anxiety is an exciting experience, they perceive it positively and pleasurable.

The study findings indicated no statistically significant difference in socioeconomic status between achievers and non-achievers. Similar results were also reported in badminton players [77] and basketball player's performance [75]. As in Tunisian children, socioeconomic status did not impact vertical jumping parameters because the result shows that morphological variables were the primary predictors of jumping [78]. However, our result did not align with previous studies, showing that socioeconomic status is vital in achieving success for

powerlifters in the Jammu region [79]. Similarly, many elite Nigerian athletes came from families with lower socioeconomic status [80]. Additionally, Socioeconomic Status positively correlates with and significantly impacts sports performance [79], [81]. Also, the running performance of Ethiopian long and middle-distance runners found that athletes with low socioeconomic status exhibited a high level of running performance while athletes with high socioeconomic status had low running performance [82].

The result shows that out of 102 participants, 2.94% of the athletes are from the upper class, 23.52% of the athletes are from the upper middle class, 23.52% of the athletes are from the lower middle class, 36.27% of the athletes are from the lower class, and 13.72% of the athletes are from lower class categories. The average score of achievers is from the lower class, but that is not statistically significant. However, they succeed in performance, which could be due to training and exercises from SAI, sports councils, or academies.

Relationships Between Sports Competition Anxiety, Socioeconomic Status, and Age

The present study found no significant relationships between sports competition anxiety and socioeconomic status among achievers and non-achievers. Our result aligns with young athletes from different socioeconomic backgrounds, regardless of their middle or affluent class, who might experience similar levels of competitive state anxiety [83]. This result was not in line with previous studies, showing a significant difference in anxiety behavior of high and low-socio-economic status sportspersons. Individuals with lower socioeconomic status (SES) may be more emotionally unstable and struggle with controlling anxiety. On the other hand, individuals from a higher SES can regulate their emotions effectively [84]. Similarly, Chen [85] reported that adolescents from higher socioeconomic backgrounds generally have better mental health.

Concerning age, the present study found no relationship with anxiety and the results were concordant with previous studies showing age does not seem to influence elite handball players' anxiety [38]. Similarly, Smith [86] reported no significant differences in anxiety scores based on age among athletes. There are some contradictory results found in some studies: age is an essential factor in determining competition anxiety [22], there is a significant negative correlation between age and anxiety [87], age is included in player's characteristics to observe anxiety, and younger players had a higher average of symptoms related to depression and anxiety [35].

Linear regression was applied to check the influence of socioeconomic status and age on predicting sports competition anxiety. Our findings showed that socioeconomic status and age do not serve as predictors or have any influence on sports competition anxiety. In

contrast, a previous study found that neuroticism was a potential predictor of sports competition anxiety [36] and Hardiness and Intrinsic Motivation also serve as predictors of sports competition anxiety [88].

There are some limitations to the current investigation. Due to time constraints, this study was limited by the sample size and the accuracy of the participants' answers and both are common limitations of survey research. Since this study is cross-sectional, some critical areas between socioeconomic characteristics and anxiety levels could not be evaluated. Researchers in the future might aim for more accurate socioeconomic and sports competition anxiety assessments.

5. Conclusions

In summary, the statistical analysis and discussion of the current study found a significant difference in sports competition anxiety between achievers and non-achievers, but the socioeconomic status of achievers and non-achievers was similar. Additionally, the study revealed no significant relationship between sports competition anxiety and socioeconomic status concerning age. The study suggests that these findings could benefit coaches, sports professionals, athletes, trainers, and scientists in physical education and sports science. They could use this information to understand that the socioeconomic status of athletes, the relationship between age and anxiety, and anxiety and socioeconomic status may not substantially impact player performance in certain situations. Therefore, athletes should be prepared to face any competitive situation during their training.

Conflicts of Interest

The authors declare that they have no competing interests.

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