State Anxiety and Self-Efficacy among Track & Field Low and High Performers

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Abstract

Objective: The aim of this study was to compare the effect of state anxiety and self-efficacy among track and field low and high performers. Method: A total of 250 athletes of track and field (100 track, high & low) and (150 field, high & low) were selected as subjects from the Saudi Inter-University participants whose age ranged between 18 to 25 years. Two questionnaires, competitive state anxiety inventory - 2 and sports self-efficacy scale were used for the collection of the data. The mean, the standard deviation, and the t-test were used as the statistical tools to analyze the data. Findings: The results indicated that there were significant differences between the track high and low performers in cognitive anxiety (P ˂ 0.05), self-confidence (P ˂ 0.05) and self-efficacy (P ˂ 0.05). While there was no significant difference between field high and low performers in all the study variables (P ˃ 0.05). The track high performers differed significantly with the field high performers in only self-efficacy (P ˂ 0.05). Whereas, the track low performers had meaningful lower anxiety and self-efficacy than the field low performers (P ˂ 0.05). Applications: It was concluded that the track high performers were more anxious and effective than the track low performers. In addition, the track high performers revealed remarkably greater self-efficacy than the field high performers. Finally, the field low performers had greater anxiety and self-efficacy than the track low performers.

Keywords: Self-efficacy, State Anxiety, Track & Field, Trained Athletes

1. Introduction

Track and field occupies a prominent place in sports. Success in track and field depends on physical, physiological, and psychological variables. For decades, the sports psychologists and researchers have been scholarly examining the influence of certain significant psychological variables such as self-concept, self-esteem, level of aspiration, achievement motivation, adjustment and locus of control which have an impact on the performance of participants1. Several researchers have undertaken studies which emphasized on variables like competitive state anxiety and self-efficacy between track and field athletes in relation to their performance2.

Anxiety is a feeling of uneasiness and stiffness causing environmental loads that are linked with arousal3. These difficulties are usually stressful representing the athletes an insight of disparity between the demand given and their abilities to achieve the request4,5. State anxiety is applied to temporary excitements and immediate emotional state that go along with anxiety and pressure, fright and an increase in physiological arousal6,7. Foremost, it has been believed that competitive state anxiety regulates success in fulfillment8,9, but some studies determine that competitive state anxiety occurs in all players10–12. Competitive anxiety is an idea where the signs of anxiety are divided into cognitive (worry) and somatic (physiological tension) modules13. Cognitive anxiety is the mental constituent of anxiety14,15. It is affected by negative beliefs about success or by undesirable self-evaluation16. Further, somatic anxiety is the physiological variable of anxiety; it is produced directly by stimulation or arousal of the autonomic systems16. Somatic anxiety is an observation of irregular body symptoms such as excitements in the stomach, sweating, shakiness, and increased heart beat17. Martens et al.17 described that the third aspect of state anxiety is self-confidence is the

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accurate expectation of athletes that they can succeed; it is the confidence in themselves and their abilities. Self-confidence was hypothesized as one’s faith in meeting the test of the mission to be performed. Self-confidence is conceptualized to have a positive direct relationship with the act of performance. It is essentially an approach which allows us to have a true insight of ourselves and abilities.

Self-efficacy is fundamentally a situational specific type of self-confidence. It is a fact that one has the abilities to perform the courses of actions required to achieve prospective behavior circumstances. The self-efficacy also is the view of an individual’s ability to effectively execute a particular performance. Self-efficacy is at the center of social cognitive theory, which interprets human performance as an outcome of the cooperation between personal elements, behavior and environmental impact. A competitor who has high self-efficacy may successfully jump higher in the high jump event or pass over the hurdles, whereas an athlete with low self-efficacy may fail to do so. In addition, self-efficacy can also be improved due to harness its performance enhancing benefits. In competition high self-efficacy occurs in the athletes who are more motivated and using higher imagery techniques than non-athletes. Sport performers tend to execute very difficult skills. Performers who have high self-efficacy always have great objectives which can be maintained and achieved.

The review of literature reveals that only one study has been carried out taking into account the psychological variables like competitive state anxiety and self-efficacy among elite track and field athletes in relation to their performance. Hence, keeping the above factors in back of the mind, the researchers have attempted to compare the state anxiety and self-efficacy among track and field low and high trained university level male performers.

2. Method

250 university level track and field male athletes (100 track and 150 field athletes) between 18–25 years of age participating in the Saudi Interuniversity Track and Field Meet during the academic year 2012–2013 were selected as subjects. The sample was categorized into high performers, who secured first eight positions in their events and low performers who did not qualify for the final round.

2.1 Tools

The psychological tests used for the study were:

2.1.1 Demographic Information Form

Information of the respondent, such as age, place, event, previous performance, experience and educational qualification was recorded.

2.1.2 Competitive State Anxiety Inventory-2 (CSAI-2)

This inventory contains three divisions of cognitive anxiety, somatic anxiety and self-confidence and this tool comprises of 27 statements with 9 items on cognitive anxiety, 9 statements for somatic state anxiety and the rest of 9 items representing self-confidence of athletes. It is a 4 point Likert type scale and its reliability is reported to be 0.93. The scoring varies from 1 (not at all) to 4 (very much) for each item.

2.1.3 Sports Self-Efficacy Scale (SSES)

The sports self-efficacy scale is a 10 item psychometric scale that is planned to determine optimistic self-belief to manage with a range of difficult requirements in life. The test is a self-evaluation questionnaire consisting of 10 statements related to the situation. In comparison with other scales intended to examine confidence, this one specifically clearly related to a personal agency.

2.2 Data Collection

The investigators told the track and field high and low performers who meet the selected standards that the data collected from them will be kept private. For collection of the data, the participants, coaches and their managers were contacted and information was given about the nature of the study. They were requested to take part in the investigation honestly. A suitable time and venue for collection of the data was arranged. The athletes were asked to read all the instructions carefully without spending much time and give an answer to the questions truthfully as far as possible. Supervision during the time of the test was done by the investigator and his co-investigators with regard to comprehending the meaning of the words or a sentence so that it becomes easier for them to give their proper response. The researchers made request to complete the responses to the both the CSAI-2 and GSES questionnaires. After the completion of the responses the questionnaires were collected and the scoring of the responses was completed. If any athlete participated in two events and secured position in both
of them, he was considered for the best position for one event only. After completing the data, the response sheets were arranged according to the respective events of high and low performers in different conditions.

2.3 Statistical Analysis
The data were analyzed to examine the difference between the psychological variables in different categories (Track & field, high and low performers) with mean, standard deviation, and the independent t-test. The level of significance was fixed at 0.05.

3. Result
The results of the study were evaluated in Table 1-4:

Table 1 elucidated that the track high performers displayed significantly greater mean values than track low performers in cognitive anxiety (19.70 ± 5.16 vs. 17.30 ± 4.51 scores, respectively, P < 0.05), self-confidence (24.06 ± 5.25 vs. 19.74 ± 5.51 scores, respectively, P < 0.05) and self-efficacy (29.72 ± 6.12 vs. 21.92 ± 6.59 scores, respectively, P < 0.05). But there was no change between track high and low performers in somatic anxiety (P > 0.05).

Table 2 indicated that the field high and low performers revealed no change in all study variables (P > 0.05).

Table 3 enunciated that the track and field high performers reported no change in all study variables (P > 0.05) except for self-efficacy which stated that track high performers showed significantly greater mean value than the field high performers (29.72 ± 6.12 vs. 27.47 ± 5.90 scores, respectively, P < 0.05).

Table 4 showed that in cognitive anxiety the field low performers had significantly greater mean value than the

Table 1. Mean and standard deviation of track high and low performers of state anxiety variables & self-efficacy

| VARIABLES          | Track High Performers n = 50 | Track Low Performers n = 50 | P-Value |
|--------------------|-----------------------------|-----------------------------|---------|
|                    | Mean ±SD                    | Mean ±SD                    |         |
| State Anxiety      |                             |                             |         |
| Cognitive          | 19.70 ± 5.16                | 17.30 ± 4.51                | P < 0.05* |
| Somatic            | 17.38 ± 4.13                | 16.44 ± 4.31                | P > 0.05 |
| Self Confidence    | 24.06 ± 5.25                | 19.74 ± 5.51                | P < 0.05* |
| Self-Efficacy      | 29.72 ± 6.12                | 21.92 ± 6.59                | P < 0.05* |

*(P > 0.05) not significant

Table 2. The mean and standard deviation of the field high and low performers of state anxiety variables & self-efficacy

| VARIABLES          | Field High Performers n = 75 | Field Low Performers n = 75 | P-Values |
|--------------------|-------------------------------|-------------------------------|----------|
|                    | Mean ±SD                      | Mean ±SD                      |          |
| State Anxiety      |                               |                               |          |
| Cognitive          | 19.13 ± 4.08                  | 20.35 ± 3.99                  | P > 0.05 |
| Somatic            | 18.09 ± 3.93                  | 17.85 ± 3.06                  | P > 0.05 |
| Self Confidence    | 23.61 ± 5.42                  | 23.33 ± 5.14                  | P > 0.05 |
| Self-Efficacy      | 27.47 ± 5.90                  | 27.45 ± 5.31                  | P > 0.05 |

*(P > 0.05) not significant

Table 3. Mean and standard deviation of track & field high performers of state anxiety variables & self-efficacy

| VARIABLES          | Track High Performers n = 50 | Field High Performers n = 75 | P-Values |
|--------------------|-------------------------------|-------------------------------|----------|
|                    | Mean ±SD                      | Mean ±SD                      |          |
| State Anxiety      |                               |                               |          |
| Cognitive          | 19.70 ± 5.16                  | 19.13 ± 4.08                  | P > 0.05 |
| Somatic            | 17.38 ± 4.13                  | 18.09 ± 3.93                  | P > 0.05 |
| Self Confidence    | 24.06 ± 5.25                  | 23.61 ± 5.42                  | P > 0.05 |
| Self-Efficacy      | 27.47 ± 5.90                  | 27.45 ± 5.31                  | P > 0.05 |

*(P > 0.05) not significant

Table 4. Mean and standard deviation of track & field low performers of state anxiety variables & self-efficacy

| VARIABLES          | Track Low Performers n = 50 | Field Low Performers n = 75 | P-Values |
|--------------------|-------------------------------|-------------------------------|----------|
|                    | Mean ±SD                      | Mean ±SD                      |          |
| State Anxiety      |                               |                               |          |
| Cognitive          | 17.30 ± 4.51                  | 20.35 ± 3.99                  | P < 0.05* |
| Somatic            | 16.44 ± 4.31                  | 17.85 ± 3.06                  | P < 0.05* |
| Self Confidence    | 19.74 ± 5.51                  | 23.33 ± 5.14                  | P < 0.05* |
| Self-Efficacy      | 21.92 ± 6.59                  | 27.45 ± 5.31                  | P < 0.05* |

*(P > 0.05) not significant

track low performers (20.35 ± 3.99 vs. 17.30 ± 4.51 scores, respectively, P < 0.05). In somatic anxiety the field low performers showed a significant difference with the track low performers (17.85 ± 3.06 vs. 16.44 ± 4.31 scores, respectively, P < 0.05). With regard to the self-confidence, the
field low performers illustrated significantly greater mean value than the track low performers (23.33 ± 5.14 vs. 19.74 ± 5.51 scores, respectively, P < 0.05). Besides, the self-efficacy revealed that the field low performers had a greater significant difference with the track low performers (27.45 ± 5.31 vs. 21.92 ± 6.59 scores, respectively, P < 0.05).

4. Discussion

The objective of this study was to compare the effect of state anxiety and self-efficacy among track and field low and high performers. Since there was no study investigating the track and field high and low performers, it is difficult to compare all the outcome of the current investigation with the previous studies. However, the investigators have tried to interpret some of the results of the study based on their long experience in track and field.

The track high performers showed significant differences with track low performers in cognitive anxiety, self-confidence and self-efficacy. The finding of the current study was in agreement with the outcomes of several previous investigations, who compared high level performers with low level athletes, male and female in different sport activities such as weight lifters, high jumpers, riders and rugby players and found significant differences in state anxiety. The interpretation of the decreased anxiety of the elite athletes may be due to the long experience in sport performance, which gives remarkable advantages to the athletes resulting in an increased self-confidence, lowered fear, nervousness and tension. If an athlete concentrates more on the competition itself rather than fighting anxiety, he or she may reduce anxiety which lead to improved performance. While the athlete with little practice may tend to have higher heartbeat, more nervousness, fear and sweating which causes the increase in anxiety resulting in low performance. Further, negative thought and the fear of failure affect negatively the performance of an athlete. Our result was in disagreement with earlier studies, who compared elite and non-elite, male and female wrestlers, and gymnasts found no change in state anxiety. This result can be interpreted that the present study used track and field university level male athletes while, undertook the male and female elite wrestlers. Wrestling is a tough sport which depends on physical, physiological, psychological and technical abilities. Male elite athletes are always superior in comparison to female athletes. Therefore, the study of has no direct understanding. The difference between the current study and of is that they used young female gymnasts aged 11 to 12 years, while the present investigation undertook male university athletes. The second result of our study was that the field high and low performers revealed no change in all the variables. Our explanation of this result was that all field performers tend to compete one after the other fully aware of his or her capability and expected position in the particular event. The track high performers had significantly higher self-efficacy than the field high performers. The nature of the events had a bearing on the self-efficacy of the participants. The track high performers, always race in a group, aware of the opponents timing, decreased fear and pressure at the moment the gun was fired and it is rare to be disqualified in a competition which may increase his or her self-efficacy. Whereas, the field high performers, compete individually, understanding the opponent’s performance. They are under constant pressure throughout the length of their trials in a competition and may miss all or some of the initial or final trails which raises the fear of failure resulting in the decrease of self-efficacy.

5. Conclusion

The track high performers were more anxious and effective than the track low performers. In addition, the track high performers revealed remarkably greater self-efficacy than the field high performers. Finally, the field low performers had greater anxiety and self-efficacy than the track low performers.

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