

Prevalence of Performance Related Pre- Competition Anxiety in Recreational Marathoners: An Observational Study

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Abstract

Background: Anxiety in recreational marathoners is a common trait observed recently. These marathoners not only go through a lot of physical but as well as mental exertion due to which it burdens them and triggers more anxiety in them. Anxiety before the marathon creates an impact on the marathoner's performance. Anxiety is a natural human state and a vital part of an individual's life.

Objective: the primary objective of this study was to find if there was any relation between the level of anxiety and the performance of the marathoner. The secondary objective was to quantify the extent of pre-competition anxiety in recreational marathoners.

Methodology: 40 recreational marathoners, both male, and female who consented to participate were included in this observational study. Their previous marathon timing and level of anxiety were checked before the marathon and they were asked to record their current marathon timings.

Result: There was a positive correlation seen between the level of anxiety and performance of the marathoner. Females were found to have more significant somatic trait and concentration disruption whereas male marathoners were found to have more worry component significant.

Conclusion: This study concluded that there was a significant correlation between the performance of the recreational marathoner and the level of anxiety was found.

Keywords: recreational marathoners. Anxiety, pre-competition, performance, somatic, trait, state

Introduction

Anxiety is referred to as an emotional state consisting of subjective, consciously experienced feeling of tension, apprehension, nervousness and worry, and heightened arousal or activation of the autonomic nervous system⁽¹⁾. It is an adaptive motivating behavior that helps an individual to cope with a threatening situation and the intense anxiety is found more prevalent in most psychiatric disorder^s ⁽³⁾. The study of stress in sports-related fields is of greater interest in both the academics researching and teaching sports science and to professionals who support and train the sports performers⁽⁴⁾. The causes can be mainly due to a mental condition, a physical condition, effect of the drug or a combination of the above. Anxiety is found as a central explanatory concept in contemporary theories, and

it is regarded as a principal causative agent for such diverse behavioral consequences such as insomnia, instances of creative self-expression, psychological and psychosomatic symptoms, etc⁽¹⁰⁾.

State anxiety is one of the anxieties which varies in intensity and fluctuates over time; the physiological changes include elevated heart rate and blood pressure, faster, shallower, more intense breathing, dryness of mouth, dilatation of pupils, erection of hair and perspiration ⁽¹⁾. Arousal of state anxiety involves a process that may be initiated by an external stimulus ⁽¹⁰⁾. Trait anxiety may or may not be manifested directly in behavior but can be inferred from the frequency that an individual experiences elevations in state anxiety; they perceive and/or appraise a wider range of situations as more dangerous or threatening than do individuals who

are low trait anxiety⁽¹⁾.

The pressure of competing on a larger scale affects the performance of a marathoner. Experimental evidences show that anxiety is a common occurrence in competitive situations and that the effects of anxiety on sports performance are extremely debilitating⁽¹²⁾. Training intensities is also one of the key factors in the performance of the marathoner as previous detraining and initial performance level could jeopardize success in spite of good adaptation to training⁽⁵⁾. In some situations, it was found that where stressors gave rise to negative appraisals and emotions, through further appraisals of their experience, the athletes were able to interpret the thoughts and feelings as facilitative for upcoming performance through an increase in the focus and efforts⁽⁶⁾. Also, increasing self- control strength could reduce the negative anxiety effects of the individual in sports and improve athletes' performance under pressure⁽⁷⁾. Though findings suggest that before the competition the performer encounters more stress, he should consider these when preparing and implementing interventions to manage competition stress⁽⁸⁾.

There has been an interest in the role of anxiety in sports competition has stimulated a substantial amount of research among sports psychologist over the past twenty years⁽¹⁾. Each marathoner has his/her way of coping in these situations. Hanin has found that the athletes can predict their pre-competition anxiety up to several days before the competition, and the predictions tend to be more accurate in the difficult competition⁽¹¹⁾. The experience of threat is essential, a state of mind which has two main characteristics one of which is future-oriented, involving the anticipation of a potentially harmful event that has not happened and the other is mediated by complex mental processes that are perception, memory, and judgment which are involved in appraisal process⁽¹⁾. The setting of high standards is an integral part of an elite sports player and often beneficial for the athletes'

performance whereas for a recreational marathoner are characterized by frequent cognitions about the attainment of ideal, perfectionistic standards, etc⁽⁹⁾. Anxiety is considered a normal and natural response that is necessary for survival but it may become a problem when it becomes a norm, rather than the exception, where the efforts executed by the recreational marathoners interfere with their ability to conduct the social events and competitions. . Anxiety before a marathon can be detected early and treated with a simple maneuver that will prevent the severity of the condition and improve the performance of the recreational marathoner which may affect the performance of the marathoner.

Aim

To study the prevalence of performance-related pre-competition anxiety in recreational marathoners.

Objective

The purpose of this study was to explore the performance-related anxiety in recreational marathoners, specifically the relationship with other psychological constructs involved in undertaking and maintaining participation a given sport.

Methodology

After obtaining the approval from the institutional ethical committee, the participants who fit in the inclusion criteria were elected. The participants were screened and an informed written consent was obtained. In this observational study 40 recreational marathoners (N= 40), where the number of male marathoners was 25 (n=25) and 15 female recreational marathoners (n=15), were included. Simple Random sampling method was used for choosing the individuals. Individuals who were not willing to participate and those who were elite marathoners were excluded. The study was conducted using the modified SPORTS ANXIETY SCALE-2 .

Statistical Analysis

Table 1 : Descriptive statistics of different study factors in recreational marathoners.

Factors	N	Minimum	Maximum	Mean	Std. Deviation
Somatic	40	6.00	15.00	10.5250	2.50115
Worry	40	5.00	18.00	11.1750	3.12055
Concentration	40	5.00	19.00	10.5250	3.61611

Statistical analysis of the recorded data was done by using the software Statistical Package for Social Science version 2.0. Arithmetic mean & standard deviation was calculated for each outcome measure. The arithmetic mean was derived from adding all the values together and dividing the total number of values. MS Excel was used for drawing various graphs with given frequencies and the various percentages that were calculated with the software.

Table 2: Shows Gender wise Distribution in Marathoners.

Gender		Somatic	Worry	Concentration
F	Mean	10.6667	10.5333	10.3333
	N	15	15	15
	Std. Deviation	2.99205	3.62268	3.13202
M	Mean	10.4400	11.5600	10.6400
	N	25	25	25
	Std. Deviation	2.21886	2.78508	3.93573
Total	Mean	10.5250	11.1750	10.5250
	N	40	40	40
	Std. Deviation	2.50115	3.12055	3.61611

Table 3: Gender wise Distribution.

Gender	Frequency	%
Male	25	62
Females	15	38

Table 4: Shows Gender wise Distribution of among Marathoners.

Age (in years)		Somatic	Worry	Concentration
19-23	Mean	10.5833	11.1667	10.5833
	N	36	36	36
	Std. Deviation	2.55650	3.21159	3.65181
24-27	Mean	10.0000	11.2500	10.0000
	N	4	4	4
	Std. Deviation	2.16025	2.50000	3.74166
Total	Mean	10.5250	11.1750	10.5250
	N	40	40	40
	Std. Deviation	2.50115	3.12055	3.61611

Table 5: Age-wise Distribution.

Age (in years)	Frequency	%
19-23	36	90
24-27	4	10

Table 6: Correlation between marathon completion timing and Anxiety.

The difference in Time Vs. Anxiety	Correlation Value	r2	95% CI	p-value
Pearson's R	.320	.103	0.01 to 0.57	0.0436

Discussion

This study “performance related pre competition anxiety in recreational marathoners”, conducted in Krishna hospital, Karad, is a theoretical and methodological proposal mainly aimed to find the relation between the performance of the recreational marathoners. A gender wise study was done for the 25 males and 15 females participated in this study. Under the three components namely somatic anxiety, worry and concentration disruption, study was conducted.

A remarkable effect was found in females on the basis of somatic anxiety score compared to that of males. The subjects aged between 19-23 (10.58 ± 2.55) also had a more significant somatic anxiety score. Somatic complaints were more often among anxiety- disordered youth with complaints including a range of physical symptoms such as headaches, stomachaches, muscle tension/pain, difficulty breathing, shaking, pounding, or racing heart, sweating, blushing, and fatigue.⁽¹⁵⁾

However, the female recreational marathoners and subjects aged between 19-23 years were also found to have more significant worry score. Excessive rumination and worry associated with cognitive anxiety had shown to interfere with attentional and cognition processes necessary for an adequate cognitive performance, such as test taking but had interference on motor- based tasks was suggested by John S. Raglin.⁽¹⁷⁾ Stressors which have been found to facilitate the development of anxiety in practice or competitive settings also contribute to sport injury occurrence thus an individual's poor stress response to a stressful practice or competitive situation

can influence their increased risk of sport injury⁽²⁰⁾.

The “concentration disruption” was also taken into consideration which showed more significance in males (10.64 ± 3.93) compared to that of the females and in the subjects categorized in the age group of 24-27 years. Relationship between emotions, cognitive interference, concentration disruption was done which showed that anxiety and dejection were associated with more interfering thoughts and greater disruptions in concentration whereas the effects of anger and happiness showed that interfering thoughts were differed.⁽¹⁸⁾

Anxiety has been considered to play a major role in an athletes life as the athlete's skills are being evaluated which often regards to a typical response which can be characterized by a psychological, behavioral and/ or cognitive signs and symptoms⁽²⁰⁾. Every athletes will have an unique response to the stress and anxiety which will differ in the signs and symptoms, as in the cognitive signs and symptoms of a stress disorder are frustration, worries, distortion, exaggeration, unrealistic performance expectations, self-defeating statements and self- handicapping, which makes it difficult to diagnose and treat⁽²⁾.

At the highest level, athletes are well-matched in terms of their physical abilities, conditioning, and skill level. But often that is not enough to win and perform on the biggest of stages which is why developing strategies and techniques to get athletes minds in the best possible condition for optimal performance is increasingly important for sports teams and coaches.

A study suggested that female participants utilized social support, emotional release, and humor/fun as their primary coping responses which is much more different mechanism compared to that of males which might be the primary reason for the differences in the components of the anxiety evaluated. The factors which can increase stress and anxiety can be physical demands, psychological demands, expectations and pressure to perform to a higher standard according to which the coping mechanism of the athletes should be considered.⁽²⁾ The earlier studies that suggested that when the athletes from Spain, Belgium and Portugal competed as an individual alone, the pressure built up to achieve a desired outcome increases which then intensifies the total anxiety score⁽¹⁹⁾.

Positive correlation between the difference in time after anxiety using its score and it was found significant. This indicated that there was a definite relation between the difference of the previous marathon timing and current marathon timings and the anxiety score with positive correlation (which mean time for recreational marathoners increases with increase of anxiety) where $p < 0.05$. The results derived from this study conclude that there is a significant correlation between the level of anxiety and the performance of the recreational marathoners.

Conclusion

By this study it is concluded that there is a marked significance between the anxiety level and performance of recreational marathoners.

Conflict of Interest

The authors declare that there is no conflict of interest concerning the content of the present study.

Ethical Clearance

An ethical clearance certificate was obtained from the institutional committee Krishna Institute of Medical Sciences Deemed to be University, Karad.

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