



Gender and Psychological Skills in Sports: A Comparative Study of Indian Male and Female Sports Persons

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Abstract

The paper attempts to quantify the level of psychological skills, namely anxiety management, concentration, confidence, mental preparation, motivation and team emphasis and make a gender-based comparison of the same on national-level weightlifters. The study was conducted on thirty male and thirty female Indian weightlifters who participated in national or international competitions. The data was collected through the administration of the Psychological Skills Inventory for Sports (PSIS), developed by Mahoney et al. in 1987. The PSIS is composed of forty-five likert type items designed to assess an athlete's psychological skill in the categories of anxiety management (AX), concentration (CC), confidence (CF), mental preparation (MP), motivation (MV) and team emphasis (TM). It was hypothesized that there would be a significant difference between male and female weightlifters in PSIS variables. The 't' ratio was applied to know the significant difference between male and female weightlifters in their psychological skills. The findings show that there is no significant difference between male and female weightlifters in PSIS.

Key Words: Anxiety Management, Concentration, Confidence, Mental Preparation, Motivation, Team-emphasis, Gender, Psychological skills, Weightlifting.

Introduction:

As the involvement, as well as competitiveness, has increased manifold in the present-day world of sports, along with physical and physiological factors, the importance of sociological, intellectual, moral, and other factors affecting the context of individual athletes' participation and performance in sports has also increased (Lucas, 2015; Hanin, 2012). Only through the holistic development of all these diverse but inter-related factors, we can ensure the presence of players with the highest calibre as well as their zenith of athletic performance (Bloom, Falcao, & Caron, 2014). Until recently, besides the athlete's sound physique and physical fitness, the main emphasis of training is on developing various types of motor skills involved in the game and teaching the strategies, techniques, and tactics of the game. Even though scholars argued for other factors' influence in athletic performance, it did not receive much attention until the end of the last century (Summers, 1997). But as learner-focused training practices started to get more attention, sports administrators, trainers, and coaches have realized the importance of players' psychological training. Along with the increasing competition and widespread attention of sports events, it is becoming necessary to enable players to bear the strain, stress, anxiety, tension, pressure, exertion, nervousness or fear inherent in these events (Ohuruogu, Jonathan, & Ikechukwu, 2016). So, the authorities have started to give more attention to the players' psychological conditioning before their contests in the national and international competitions.

Psychological pressure is widespread among athletes during competitions, affecting their performance (Lundquist, 2006). Stress creates anxiety and irritability, which leads to high blood pressure and an increased heart rate. As mental state during competitions had an impact on performance, ensuring a positive mind at the time will undoubtedly make a positive impact on the athlete. Psychological skills will enable one to acquire such a state of mind on the right occasion (Camire & Trudel, 2014; Freitas, 2013). Psychological skills are those given techniques like thoughts, actions, and behaviours that intentionally applied either internally or externally to influence, control, and channelize athletes' psychological state. Reflection on psychological skills will provide a better assessment to

evaluate an athlete's performance (Sharp, Woodcock, Holland, Cumming, & Duda, 2013). It will give an integrated approach to uplift the performance when we take more than one particular skill.

At present, sports training is the totality of physical, intellectual, psychological and moral preparation of a player to achieve a particular intended performance. Even though the prime aim of the training is to develop the player's optimal performance capacity, i.e. maximum possible improvement in physical fitness, sports skills, and tactical efficiency, without developing adequate proficiency in mental skills, the player cannot employ the above skills sufficiently when required.

Background of the Study:

Even though the youngest nation in the world and economically vibrant for a long time, India's contribution to sports is somewhat limited. Except for very few in general and in cricket, the nation cannot make internationally competing athletes continuously. Due to geographic diversity, the nation is capable of encouraging any summer and winter games. For some years, the government and civil society are coming forward to facilitate an accessible sports infrastructure throughout the country. But winning in the present-day world of sports is beyond the impact of infrastructure, diet and financial incentives. Selecting the right athlete for the most suitable game at the earliest by using anthropometric tools is missing in India. However, a more serious concern is the stress created in the competitive atmosphere, which ultimately determines any player's athletic performance. Stress, anxiety or nervousness negatively affects performance. Such a situation is a condition rather than a disease; hence, continuous and consistent management is needed. Athletes should be trained in psychological skills from a very early stage to deal with the psychological pressure arising from any kind and level of competition.

As characterized by traditional male identities like physical power, aggression and competitiveness, sports are considered a space of male dominance. In general, sports is referred to as 'male preserve'. Gender stereotypes considered women to be too weak for endurance sports like marathons, weightlifting and cycling, which were considered as 'male-sports' (United Nations, 2007). A masculine body demands 'strength'; men are expected to develop muscles, whereas women are expected to burn fat to become lean as the feminine body is envisioned as 'thin' (Salvatore & Marecek, 2010). Weightlifting is a game that helps in developing muscles. It helps in the physical and mental health of all irrespective of gender, but some of the biophysical benefits of weightlifting like overall fitness, increasing metabolism, prevention of osteoporosis and others are particularly relevant for women. Recently, more women were started to practice lifting weights.

But contrary to this universal phenomenon, women performed better among Indian weightlifters since the 1990s itself. They achieved remarkable victories consistently. So, it is highly needed to know the role and relevance of psychological skills in Indian women weightlifters' athletic performance compared with that of men.

Scope of the Study:

It is believed that all the top class sportspersons are more or less equal in their physical capacities and training techniques (Sotoodeh, Talebi, Hemayattalab, & Arabameri, 2012), and the ultimate difference in winning edge is determined based on the psychological presence (Hille, 2014). As mentioned above, it is believed that the physiological and physical factors are more important in performance; hence preparations were determined based on athlete's muscle fibre type, anatomical structure and size, energy metabolism, body response to exercise and cardiovascular fitness (Forrester, 2013). Now it is realized that psychological factors determine how closely an athlete comes to the absolute limits of performance. That means psychological factors can very well explain the variation in day-to-day athletic performance without any significant changes in the player's physical condition (Weinberg & Gould, 2011).

Psychological skills ensure better preparation of an athlete for any event. Physical and physiological factors are more performance-oriented; hence, a better inter-relationship between them will ensure better results in the athlete's athletic performance. But it is the psychological skills of the athlete guarantees winning chances in any competition. It is important to note that psychological skills are not equal in everyone. Compared to the other, one gender will be more strong in a particular psychological skill. The present paper will try to address the lacune in our understanding of gender-based differences in psychological skills and their impact on athletic performance because a better understanding of the degree of incorporation and coping with challenging situations, like competitions, among athletes will help to improve the winning chances of them.

Statement of the Problem:

Even though the role and relevance of psychological skills in athletic performance are well known these days, it is hardly applied in practice due to various issues. One important reason is the unavailability of

competent sports psychologists. Identifying the lack of psychological and personality skills in a particular person associated with the particular game needs years of observation, data collection, and experiments to reach a solution. But developing countries like India have very poor provision for such facilities. Similar is the issue of time spent with the player. As such skills are gradually evolving either naturally or through coaching, the time taken together between the player and the psychologist is comparatively long. Identifying the player and ensuring his association with a particular sports psychologist is the only option for assessing his performance in a long time. Another difficulty is related to the measurement or calculation of the psychological skills of a player. As genuine players' athletic performance demands strategic planning, assessing the player's psychological skills from time to time accurately demands well-developed questionnaires. The researcher is attempting to understand the sports-specific psychological skills of Indian weightlifters using the above-mentioned Psychological Skills Inventory for Sports (PSIS) to assess and compare their gender-specific differences.

Objectives, Research Questions and Hypothesis:

In light of the observations made so far, this paper's broad objective is to assess the gender-based differences in sports-specific psychological skills of Indian weightlifters using PSIS variables. Considering the relevance of psychological skills in athletic performance, it is vital to understand the unique impact of them in male and female categories, if there is any. Here the researcher is trying to study this objective by taking both male and female national-level weightlifters of India.

The research questions are,

1. What is the level of psychological skills of male and female weightlifters of India?
2. Whether there are any gender-wise differences in the sports specific psychological skills?

The present study is hypothesized that there will be a significant difference between male and female weightlifters in anxiety management, concentration, confidence, mental preparation, motivation and team emphasis.

Literature Review:

For a long back, to address the increasing competition in field, athletes and others searched for all possible ways for improving performance. This enabled the application of all branches of knowledge on sports. Hence, an athlete's performance these days is more or less a joint product of various scientific concepts. Among them, the benefits of using psychological knowledge in addressing performance issues on athletes were realized long before. Maybe, in the beginning, athletes and their mentors used psychological traits without recognizing them as an exclusive branch of study. But later, there were conscious efforts to use all the till known possibilities of psychology for the competitive edge of athletes. There were exclusive research and other investigations to experiment with the possible impacts of emerging psychological theories and concept for complementing other efforts of athletes and teams.

Various factors like the family, coach, athletic environment, socialization, earlier achievements, learning experiences, athletic ability and training, affect one's performance in a particular event (Kubiak, 2012). Each athlete is prone to some emotional crisis that adversely affects their expected performance (Hainline, 2014). But one or other kind of psychological tricks were used by athletes and trainers to address them since time immemorial but in an amateur manner (Ikulayo, 2003). They were spontaneous, and there was no serious or professional attempt to study and apply them accordingly. Since Norman Triplett of America (Vaughan & Guerin, 1997) and Peter Lesgaft of Soviet Union (Stauble, 1986) observed first reported evidence of the influence of psychological traits in sports at the beginning of the twentieth century, there were several studies about the relevance of applying psychology in sports (Vipene & Emeribe, 2007; Straub, 1978).

The importance of psychological skills was studied with regard to several games, namely football (Niekerk, Coopoo, & Fortuin, 2015; Thelwell, Greenless, & Weston, 2006), weightlifting (Elemiri & Aly, 2014; Mahoney M. J., 1989), boxing (Panchal & Kumar, 2015; Smit & Louw, 2011), swimming (Post, 2012; Sheard & Golby, 2006), track and field (Lawless & Grobbelaar, 2015; Lawless F. J., 2013; Katsikas, Argeitaki, & Smirniotou, 2009) and others (Jooste, Steyn, & Wyk, 2013; Goudas, Theodorakis, & Karamousalidis, 1998; Daw & Burton, 1994). Some studies focus on comparing psychological skills generally shown by athletes in different games (Hille, 2014; Minjina, 2014; Kajbafnezhad, Ahadi, Heidarie, Askari, & Enayati, 2011; Elferink-Gemser, Visscher, & Lemmink, 2005). There were attempts to identify the gender differences in players' psychological skills (Kruger & Pienaar, 2014; Katsikas, Argeitaki, & Smirniotou, 2009; Nicholls, Polman, Levy, Taylor, & Copley, 2007). Similarly, there were attempts to study the specific psychological skills of either male or female players (Panchal & Jaggi, 2016) and their comparison (White, 1993).

There were several attempts to develop research questionnaires in order to measure psychological skill levels of players like the Sports Competition Anxiety Test (Martens, 1977), Group Environment Questionnaire (Brawley, Canon, & Widmeyer, 1987), Competitive Sport Anxiety Inventory (Martens, Vealey, & Burton, 1990),

Sports Anxiety Scale (Smith, Smoll, & Schutz, 1990), and Psychological Skills Inventory (Wheaton, 1998). But most of the later studies used the expanded versions of the Athletic Coping Skill Inventory developed by Smith and others (Smith, Schutz, Smoll, & Ptacek, 1995) and the Psychological Skills Inventory for Sports developed by Mahoney and others (Mahoney, Gabriel, & Perkins, 1987).

The basic principles of developing psychological skills for each player are well studied. Applications of psychological skills are not universal to every player. Actually, each player requires a distinct set of psychological skills according to a mental condition, nature and tactical aspects of the sport (Jooste, 2012; Birrer & Morgan, 2010). It was identified that some elite athletes developed several psychological skills such as concentration, anxiety control, goal setting, and mental imagery in order to perform better (Martens 1987). Hence, thorough observation of each player is demanded to develop a suitable practise pattern of psychological skills suitable for each athlete (Vipene & Emeribe 2007).

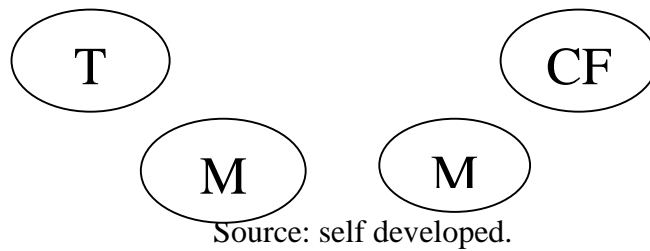
Psychological skills help in inter-personal communication (Vipene & Emeribe 2007), pain therapy (Guerriero, 2015; Santi & Pietrantonio, 2013), stress management (Osborne, 2016; Cohen, Nordin, & Abrahamson, 2010; Hanton, Thomas, & Mellalieu, 2009), discipline (Weinberg & Gould, 2014). There were studies about the need for psychological skills in athletes with reference to anxiety (Graham 2009), cognitive anxiety (Woodman 2011), on one side and by taking different psychological skills together (Moran, 2012; Gardner & Moore, 2006).

Methodology:

The purpose of the present study is to investigate and understand the level of psychological skills among the weightlifters on a gender basis. For that, sixty weightlifting athletes were selected as subjects; among them, thirty were male, and thirty were female athletes who were either national or international level athletes. The survey was conducted at the National Weightlifting Camp, Bangalore and State Senior Weightlifting camp, Thiruvananthapuram. The subjects' age ranged from nineteen to thirty years. All participants voluntarily joined for collecting data by the researcher. Utmost care was taken to ensure a whole India representation, but some regions were hardly included because of their absence in the camp. The data was collected through the administration of the Psychological Skills Inventory for Sports (PSIS), developed by Mahoney and others (Mahoney, Gabriel, & Perkins, 1987). The PSIS is composed of 45 likert type items designed to assess an athlete's psychological skill in the categories of anxiety management (AX), concentration (CC), confidence (CF), mental preparation (MP), motivation (MV), and emphasis upon team goals (TM) which are the six psychological skills, according to Mahoney, focused by an ideal sports personality. This inventory was widely used to distinguish between elite athletes and non-athletes, male and female athletes, athletes in various sports, and athletes of different nationalities (Smith, Schutz, Smoll, & Ptacek, 1995). The 't' ratio was applied to know the significant difference between male and female weightlifters in their psychological skills.

All the five variables taken here are highly interconnected and positively connected too. As anxiety management shows the athlete's ability to control anxiety during a competition, the higher scores of the same indicate the possibility of better concentration, confidence and self-motivation levels. Hence mental preparation will also be high. Team emphasis shows the peer group support, i.e. from coach, psychologists, fellow players, and others expressed to a single athlete throughout the training period and on the venue of competition as weightlifting is an individual competition. This variable, too, will be positively related to all others, as one can expect. So, all these variables have a simultaneous cyclical relationship with each other which is diagrammatically showed below.

Picture 1: Inter-relationship among Anxiety Management, Concentration, Confidence, Mental Preparation, Motivation and Team Emphasis



In the picture above, the outer circle represents the whole bunch of psychological skills. The inner circles represent different variables taken by Mahoney et al. to assess the state of mind of a player. The picture point out that all inner circles have continuous and consistent inter-relationship with each other. Hence, any changes in the level of one variable will result in the proportional or non-proportional changes in the level of other variables.

The participants were active athletes for several years, participating in national and international competitions. They all were exposed to and trained in psychological skills, in varying degrees, either from coaches or from their own experience. But none of them had any exclusive training in psychological skills in order to enhance performance. The survey was taken mainly in afternoon and night hours, considering the convenience of respondents. The researcher herself interviewed all athletes in order to reduce the possibility of errors. Even though the questionnaire was in English, to communicate with the respondents, the help of translators was also used.

Analysis and Findings:

To find out the degree of psychological skills among weightlifters, the researcher calculated the mean and standard deviation, with maximum and minimum scores, of PSIS of thirty male and female players each. To know the differences in both male and female weightlifters the 't' ratio was calculated. The following table shows the mean of selected variables with standard deviation and 't' value.

Table 1: Mean, Standard Deviation, with Maximum & Minimum scores, and 't' value of PSIS of Thirty male and female Weightlifters

PSIS	Male (N=30)				Female (N=30)				't' ratio
	Mean	SD	Max.	Min.	Mean	SD	Max.	Min.	
AX	49.10	11.21	78	30	48.83	6.81	63	38	0.10
CON	59.17	14.18	88	33	54.27	15.75	92	33	1.39
CF	66.47	12.14	81	42	62.80	11.48	81	42	1.45
MP	47.83	12.03	83	29	43.63	11.71	58	20	1.45
MV	67.47	08.79	82	50	70.40	06.38	86	57	1.64
TM	65.57	06.99	79	50	59.60	13.59	82	32	1.98
Significant at 0.05 level; t 0.05 (58) = 2.01									

Source: Calculated figures

From the table, the mean value of anxiety management among male is 49.10 and female is 48.83 only. This shows that anxiety management of both male and female Indian weightlifters are generally very poor, even though males are marginally better than women. Similarly, the standard deviation is 11.21 and 6.81 among male and female, respectively, which shows that males have comparatively higher variation in anxiety management than females. The broader differences among male are evident from its maximum (78) and minimum (30) scores than among women's. But at the same time, the calculated 't' ratio is only 0.10, which is less than the tabulated value of 2.01; hence it is evident that there is no significant difference between male and female weightlifters in their anxiety management skill.

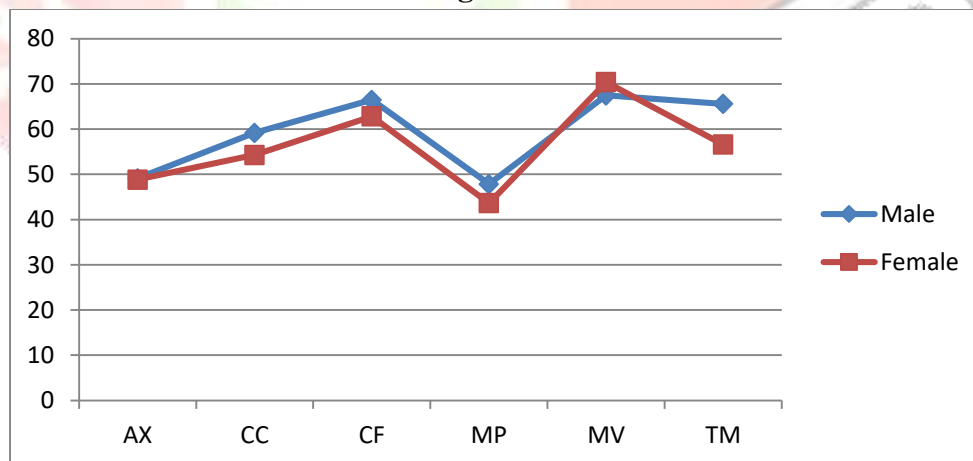
The table shows a very poor mean value of concentration among male (59.17) and female (54.27). It is not only that male shows a better average than female; the variation among male (SD = 14.18) is also lesser than female (SD = 15.75). The maximum value among female is 92, and the minimum is 33, whereas, among male, it is 88 and 33 respectively. As the calculated value of 't' ratio is only 1.39 which is less than the tabulated value of 2.01, so that the difference between male and female Indian weightlifters is their concentration skill is not significant.

The mean value of confidence among males is 66.47 and female is 62.80, whereas the standard deviation is 12.14 and 11.48 among males and females, respectively. Here again, the calculated 't' ratio is less than the significant level of 2.01, which means both male and female has almost similar competency in confidence skill. Subsequently, the table exposes poor performance in mental preparation. The mean score of mental preparation among male is 47.83 and among female is 43.63 only. The variation among male scores ranges from 83 at maximum and 29 at the minimum with a standard deviation of 12.03. On the other side, the female has a standard deviation of 11.71 with a maximum of 58 and a minimum of 20 as the score. The calculated 't' ratio is 1.45, which again point out the insignificant difference between male and female scores in the skill of mental preparation.

In the case of motivation, the male (67.47) mean score is less than the female (70.40). Not only that, the maximum and minimum of female values (86 and 57 respectively) are higher than male (82 and 50 respectively) here. The individual scores vary among males (SD = 8.79) than females (SD = 6.38). Finally, the calculated 't' ratio is 1.64 only; hence there is no significant difference between male and female scores of motivation skill. When it comes to team emphasis, the male mean score is 65.57 and of the female is 59.60 only. The variation among male is 6.99, with 79 and 50 as maximum and minimum scores, whereas among female is 13.59 with 82 and 32 as maximum and minimum scores. The calculated 't' ratio is 1.98 only, which is again less than 2.01; so that the gender difference in team emphasis is not significant.

The graphical illustration of mean scores of male and female weightlifters on PSIS is shown below. The variables of anxiety management, concentration, confidence, mental preparation, motivation and team emphasis are taken on the horizontal axis and their mean scores on the vertical axis.

Graph 1: Graphical Representation of Mean Scores of Male and Female Weightlifters on PSIS



Source: Calculated from collected data

Discussion on Findings and Hypothesis:

The findings show no significant difference between male and female weightlifters in anxiety management, concentration, confidence, mental preparation, motivation and team emphasis. So the hypothesis stated that there would be a significant difference between male and female weightlifters in PSIS is rejected. The scores indicate that the PSIS variable is independent of gender and sport among higher-level sports persons. Further, the scores of the PSIS variable shows that all these sports persons were almost ordinary on

the scale. As we do not compare them with any international or national performance scale, it will be not possible to comment on whether they are performing better or not. Here, the male performs better than the female in all variables except in motivation, but that is insignificant as the difference among them is very marginal only. Even though women performed better than men in weightlifting in India, the better score of females in motivation is becoming insignificant as it is not considerably higher than males.

The overall findings in the study showed no gender-based variations in PSIS variables of present data. The result of the present study agrees with Kamalesh (Kamalesh 2015), which also found hardly any significant gender differences in psychological skills. It might be attributed to the reason that women are equal in competitiveness to men and at a higher level of competition. According to the nature of the sport, the ways in which psychological skills are developed in female competitors is similar to that of male athletes. Besides, female sportspersons have positive incentives such as prestige, status and recognition for their success in the competition nowadays instead of criticism and negative branding earlier. Finally, previous researches indicate that gender differences in psychological skills were more relevant and applicable on a collective basis, i.e. on the team rather than on the individual (Karamousalidis, et al., 2006; White, 1993). In contrast, other studies (Skourtanioti & Bebetos, 2008; Bebetos & Antoniou, 2003; Vealey, 1988) found no differences between gender on any psychological characteristic of elite athletes. As Smith and his colleagues (1995) indicated, the physical and psychological skills appear to be relatively independent of one another.

Limitations of the Study:

The study took the PSIS questionnaire developed by Mahoney et al. without any further additions or deletions to make it more suitable to Indian conditions. Similarly, as the study is not comparing the selected samples with international levels of psychological skills, it is not possible to draw any reflections on the Indian situation.

Conclusion:

Sports have grown from merely an entertainment held once to a multi-billion industry that contests many expectations and interests along with. It is more than a job provider or physical exhibition. It even became one of the best ways to show the political might and cultural eliteness of a nation in front of the world (Vipene & Emeribe, 2007). Hence exploring new frontiers to crack the competition has grown more than ever. Making an athlete is more than making him physically fit these days. Thus systematic progress of an athlete in all required fields, mainly psychological, is relevant. Mastering psychological skills will help an athlete to address competitive pressure. Such an effort is essential as the body's efficient and effective movement becomes the fundamental component of success rate in any athletic competition, and psychological skills play a vital role in ensuring the healthy enhancement of the same. Lack of exposure to psychological skills these days should be considered not only as a shortfall of training pattern but more than as a planned conspiracy to make players underperformed considering the immense potential of the same on the player's athletic performance.

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