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A comparative study of sportsperson and non-sportsperson about certain selected psychological correlates

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Abstract

The influence of sports culture on modern society is substantial, and engaging in sports can have a profound impact on a child's growth. This research investigates the distinctions between individuals involved in sports and those not in terms of Aggression, Hope, Self-efficacy, Optimism, and Resilience. The study involved 60 participants aged 18 to 31, selected using purposive sampling, with 30 individuals engaged in sports and 30 not involved, comprising 20 males and 10 females in each group. The Buss and Perry Aggression Questionnaire (BPAQ) was used to measure four types of aggression: physical aggression, verbal aggression, anger, and hostility. The Psychological Capital Questionnaire evaluated self-efficacy, optimism, hope, and resilience. The findings revealed that individuals engaged in sports demonstrated significantly higher scores in verbal aggression, hope, and resilience ($p < 0.05$), while no notable variances were observed in physical aggression, anger, hostility, hope, and optimism. The results indicate that there are differences in verbal aggression, hope, and resilience between individuals who participate in sports and those who do not. This research emphasizes the unique psychological characteristics that are cultivated through engaging in sports.

Keywords: Sportsperson, non-sportsperson, aggression, hope, self-efficacy, optimism, resilience

Introduction

Sports are an essential component of modern society's culture. Playing sports is a healthy and beneficial part of a child's development. Participants in sports experience improved health and build core abilities that are critical for overcoming obstacles in life (Ahmadi, 2010, p. 43) ^[2]. It is impossible to accomplish the aims and objectives that promote growth and development without a healthy population. Thus, it is essential to preserve people's health so they can utilize their potential to promote growth and personal development (Ahmadi, 2010, p. 45) ^[3]. In India, 1952 was a historic year for women's sports. Weightlifting, wrestling, boxing, and rugby are traditional male sports that have seen the participation of women since 1972. In 1973, the Women's Cricket Association of India was established. In 1976, the Indian women's side played their first Test match against the West Indies. Sport is now a widely recognized societal phenomenon. A multitude of social objectives and societal problems can be resolved using sport as a platform (Milanovic *et al.*, 2015) ^[35].

Aggression and sports

In sports, aggression can impact performance in both positive and negative ways. Aggression, or assertive behaviour, has been demonstrated to enhance performance. Unhealthy hostility, however, can result in fines, needless injuries, bans, and legal repercussions. Aggression can be physical, mental, emotional verbal, hostile and instrumental. (Myers, 1988) ^[36].

Hope and sports

Hope is a reliable indicator of future sports success. Athletes with hope have the drive and determination to overcome challenges, which can aid in their goal-achieving. According to a study, weekly state hope is a more accurate indicator of sports performance than dispositional hope, training, mood, self-worth, and confidence. Hope is related to self-efficacy. Self-efficacy is the conviction that one can work hard, handle stress, and do well.

High self-efficacy athletes are more likely to create difficult objectives, perform better under stress; and reduce tension and negative feelings during competitions. Athletes can function more effectively when they are optimistic. Compared to pessimistic athletes, optimists typically outperform them in terms of success rates and athletic performance. Upbeat athletes also typically exert greater effort throughout games and seasons.

Resilience and sports

In contrast to psychological distress, resilience is inversely correlated with both psychological well-being and athletic success. Maintaining a positive equilibrium and adjusting to challenges are two ways that athletes develop resilience as it is the capacity to recover from difficult circumstances. Self-awareness, Mindfulness, Self-care, Positive relationships, and Purpose are five pillars of resilience. Competence, Confidence, Connection, Character, Contribution, Coping, and Control are important attributes of resilience. Athletes encounter varying setbacks, hardships, and pressures (Mellalieu *et al.*, 2009; Tamminen *et al.*, 2013) [34, 55]. Athlete and non-athlete populations experience different stressors (Pritchard *et al.*, 2005) [41], have distinct body image conceptualization (Hausenblas *et al.*, 2001) [24], and show differences in emotional intelligence and mental health (Bostani *et al.*, 2011) [8]. Hence, the present study aims to assess and compare resilience variables between sportspersons and non-sportspersons.

Self-efficacy and Sports

The athlete's confidence in their capacity to carry out a successful action and get a particular result in their athletic performance is known as athletic self-efficacy (Bandura, 1997) [5]. Athletic self-efficacy includes the athlete's abilities, physical and mental fitness, leadership and coaching, and situational superiority; however, it affects one's capacity for success, stress management, and sports performance (Sivrikaya, 2019) [54]. Self-efficacy is the conviction that one's ability to execute certain actions to achieve a specific outcome.

Optimism and sports

The main advantage of having an optimistic explanatory style is that people are more prone to be persistent and committed during the action phase of working toward a goal and more likely to tolerate uncontrollable suffering (Espahbodi *et al.*, 1991) [20]. Explanatory style predicts how athletes and team will achieve relative to their skill level and how they will perform under pressure. Optimists' sportspersons display a more consistent effort throughout individual games and the season.

Objectives of the present study may be stated as follows

- To determine whether there exists any difference between sportspersons and non-sportspersons concerning aggression.
- To determine whether there exists any difference between sportspersons and non-sportspersons concerning hope.
- To determine whether there exists any difference between sportspersons and non-sportspersons concerning self-efficacy.
- To determine whether there exists any difference between sportspersons and non-sportspersons concerning optimism.
- To determine whether there exists any difference between sportspersons and non-sportspersons concerning resilience.

Methods

Sample

The sample of 60 adult subjects was divided into two groups (30 sportspersons in which Male=20, Female=10 and 30 non-sportspersons in which Male=20, Female=10). In the present study, those belonging to the age range 18-31 were selected. The minimum educational qualification of the participants is a 10th pass. All the subjects were unmarried. The year of experience as a sportsperson was fixed to 4 years. A matched group design was used. The two groups were matched based on age, sex, educational qualification, religion, monthly family income, and relationship status.

Sampling technique

The Purposive Sampling Technique was used.

Selection of study area

The selected study area is sports concerning sportspersons.

Inclusion criteria

- Age range (18-31).
- Education (minimum tenth standard pass).
- Individuals belonging to both males and females were included.
- Individuals with a minimum of 4 years of experience as a sportsperson were included.
- Unmarried individuals were included.

Exclusion criteria

- Individuals diagnosed with severe mental or physical illness
- Individuals outside the age range of 18-31
- Individuals with less than tenth standard educational qualification

Formulation of hypotheses

- **Hypothesis 1 (H₀):** There is no significant difference between sportspersons and non-sportspersons concerning aggression.
- **Hypothesis 2 (H₀):** There is no significant difference between sportspersons and non-sportspersons concerning hope.
- There is no significant difference between sportspersons and non-sportspersons concerning self-efficacy
- There is no significant difference between sportspersons and non-sportspersons concerning optimism.
- There is no significant difference between sportspersons and non-sportspersons concerning resilience.

Tools used

The tools that were used for this study to achieve the goals and objectives of this research are as follows:

- Informed consent form.
- Sociodemographic data sheet.
- The buss-perry aggression questionnaire.
- Psychological capital questionnaire.

Procedure

The tools that were used for this study to achieve the goals and objectives of this research.

Informed consent form

Informed consent was taken from the client. Confidentiality was assured. Participation was voluntary.

Sociodemographic data sheet

The participants were selected with the help of information provided by them on the sociodemographic sheet like age, educational qualification, severe mental or physical illness, serious psychiatric illness, and other questions that were given on the form.

Aggression questionnaire

A 29-item evaluation tool called the Buss-Perry Aggression Questionnaire (BP-AQ) is used to gauge four different aspects of aggressiveness: hostility, anger, physical aggression, and verbal aggression. Subscale is Physical Aggression, Verbal Aggression, Anger and Hostility.

Psychological capital questionnaire

Luthans *et al.* (2007) developed the Psychological Capital Questionnaire (PCQ), which consists of 24 items designed to assess four components of Psychological Capital: hope, self-efficacy, optimism, and resilience, with six items dedicated to each element.

Results

Table 1: The table compares various psychological variables between two groups: Sportspersons and non-sportspersons. Each variable has a mean score and a standard deviation for both groups

| Variable | Group | Mean | SD | T-Value |
|---------------------|------------------|---------|---------|----------|
| Physical aggression | Non-Sportsperson | 17.4750 | 5.68844 | -5.530** |
| | Sportsperson | 23.6000 | 4.08750 | -5.530** |
| Verbal aggression | Non-Sportsperson | 18.0500 | 5.32026 | -4.622** |
| | Sportsperson | 22.7500 | 3.61443 | -4.622** |
| Anger | Non-Sportsperson | 17.7500 | 5.51339 | -6.013** |
| | Sportsperson | 24.0750 | 3.72371 | -6.013** |
| Hostility | Non-Sportsperson | 16.8000 | 5.70290 | -4.204** |
| | Sportsperson | 21.5750 | 4.36705 | -4.204** |
| Hope | Non-Sportsperson | 24.4750 | 2.64078 | -2.280* |
| | Sportsperson | 25.7750 | 2.45459 | -2.280* |
| Self-efficacy | Non-Sportsperson | 25.0500 | 2.93476 | -1.629 |
| | Sportsperson | 26.0500 | 2.54145 | -1.629 |
| Optimism | Non-Sportsperson | 25.5000 | 3.47887 | -2.259* |
| | Sportsperson | 27.3000 | 3.64586 | -2.259* |
| Resilience | Non-Sportsperson | 25.6250 | 2.98447 | 0.545 |
| | Sportsperson | 25.2750 | 2.75483 | 0.545 |

** $p < 0.01$, * $p < 0.05$

Compared to non-athletes, athletes typically exhibit higher levels of aggression (both verbal and physical), hostility, hope and optimism.

Table 2: The table displays the average scores and standard deviations (SDs) for different psychological variables, contrasting male and female participants. Each variable includes the average score and the standard deviation for both genders

| Variables | Gender | Mean | SD | t-value |
|---------------------|--------|-------|------|---------|
| Physical aggression | Male | 23.95 | 4.44 | 6.477** |
| | Female | 17.12 | 4.96 | 6.477** |
| Verbal aggression | Male | 22.50 | 3.24 | 4.021** |
| | Female | 18.30 | 5.75 | 4.021** |
| Anger | Male | 22.67 | 4.49 | 2.197** |
| | Female | 19.15 | 6.18 | 2.197** |
| Hostility | Male | 22.67 | 3.48 | 7.125** |
| | Female | 15.70 | 5.12 | 7.125** |
| Hope | Male | 24.57 | 2.64 | 0.060 |
| | Female | 25.67 | 2.49 | 0.060 |
| Self-efficacy | Male | 25.35 | 3.23 | 0.522 |
| | Female | 25.75 | 2.25 | 0.522 |
| Optimism | Male | 27.17 | 4.21 | 0.057 |
| | Female | 25.62 | 2.84 | 0.057 |
| Resilience | Male | 24.72 | 2.32 | 0.022* |
| | Female | 26.17 | 3.17 | 0.022* |

** $p < 0.01$, * $p < 0.05$

The table indicates that males generally exhibit higher scores in aggression-related areas such as physical aggression, verbal aggression, anger, and hostility. In contrast, females typically

score higher on positive psychological traits like resilience. Although optimism is more prevalent in males, the disparity is less significant compared to the aggression-related scores.

Table 3: This table compares male and non-athletes psychological traits and levels of aggression, including physical and verbal aggression, anger, hostility, hope, self-efficacy, optimism, and resilience. The table presents mean scores, standard deviations (SDs), and t-values for each variable, showing significant differences when noted

| Variable | Group | Mean | SD | T-Value |
|---------------------|------------------|-------|------|----------|
| Physical aggression | Non-Sportsperson | 21.70 | 3.80 | -3.676** |
| | Sportsperson | 26.20 | 3.94 | -3.676** |
| Verbal aggression | Non-Sportsperson | 21.85 | 4.07 | -1.278 |
| | Sportsperson | 23.15 | 2.03 | -1.278 |
| Anger | Non-Sportsperson | 21.15 | 4.26 | -2.257* |
| | Sportsperson | 24.20 | 4.29 | -2.257* |
| Hostility | Non-Sportsperson | 21.50 | 2.96 | -2.242* |
| | Sportsperson | 23.85 | 3.63 | -2.242* |
| Hope | Non-Sportsperson | 24.00 | 2.79 | -1.389 |
| | Sportsperson | 25.15 | 2.43 | -1.389 |
| Self-Efficacy | Non-Sportsperson | 24.70 | 3.42 | -1.283 |
| | Sportsperson | 26.00 | 2.97 | -1.283 |
| Optimism | Non-Sportsperson | 25.70 | 4.40 | -2.338 |
| | Sportsperson | 28.65 | 3.53 | -2.338 |
| Resilience | Non-Sportsperson | 25.20 | 3.02 | 1.306 |
| | Sportsperson | 24.25 | 1.21 | 1.306 |

** $p < 0.01$, * $p < 0.05$

These results emphasize that athletes generally have higher levels of certain aggressive behaviours and optimism, reflecting the impact of competitive sports and training environments. However, in fields such as verbal aggression,

hope, self-efficacy and resilience, the differences are not significant, which suggests that these traits can be influenced by wider factors beyond Sports participation.

Table 4: This table represents a comparative analysis of female athletes and non-athletes on various psychological traits and levels of aggression. It includes mean scores, standard deviations (SDs), and t-values for each variable, indicating significant differences when noted

| Variable | Group | Mean | SD | T-Value |
|---------------------|------------------|-------|------|----------|
| Physical aggression | Non-Sportsperson | 13.25 | 3.80 | -7.965** |
| | Sportsperson | 21.00 | 2.13 | -7.965** |
| Verbal aggression | Non-Sportsperson | 14.25 | 3.34 | -6.260** |
| | Sportsperson | 22.35 | 4.73 | -6.260** |
| Anger | Non-Sportsperson | 14.35 | 4.46 | -7.842** |
| | Sportsperson | 23.95 | 3.17 | -7.842** |
| Hostility | Non-Sportsperson | 12.10 | 3.39 | -6.252** |
| | Sportsperson | 19.30 | 3.88 | -6.252** |
| Hope | Non-Sportsperson | 24.95 | 2.46 | -1.898 |
| | Sportsperson | 26.40 | 2.37 | -1.898 |
| Self-efficacy | Non-Sportsperson | 25.40 | 2.39 | -0.983 |
| | Sportsperson | 26.10 | 2.10 | -0.983 |
| Optimism | Non-Sportsperson | 25.30 | 2.32 | -0.718 |
| | Sportsperson | 25.95 | 3.32 | -0.718 |
| Resilience | Non-Sportsperson | 26.05 | 2.96 | -0.246 |
| | Sportsperson | 26.30 | 3.45 | -0.246 |

** $p < 0.01$, * $p < 0.05$

These results highlight that athletes tend to exhibit higher levels of certain aggressive behaviours. However, no significant differences were observed in the areas of hope, self-efficacy, optimism and resilience, suggesting that these traits may be influenced by broader factors outside of sports participation.

Discussion

The present study's main objective is to ascertain whether aggression in physical, verbal, hostile, and furious behaviour differs between athletes and non-athletes. The current study aims to ascertain how sportspersons and non-sportspersons differ regarding Hope, Self-Efficacy, Optimism, and Resilience. The Aggression Questionnaire and Psychological Capital Questionnaire were administered to 60 adults, aged

18-31 years, among which 30 were sportspersons and 30 were non-sportspersons, t-test was computed to determine the differences between sportspersons and non-sportspersons concerning selected variables. The data's statistical analysis findings, which are shown in the results chapter, seem to indicate some intriguing discoveries regarding the factors previously described.

From the previous chapter of results, it has been found

- There exists a significant difference between sportspersons and non-sportspersons with respect to physical aggression, verbal aggression, anger, hostility, hope, and optimism.
- There is no significant difference found between sportspersons and non-sportspersons with respect to self-

efficacy, and resilience.

Comparisons between various psychological variables between two groups: sportspersons and non-sportspersons

Research indicates that athletes tend to display higher levels of verbal and physical aggression and hostility than non-athletes, likely due to the competitive nature and physical demands of the sport, which often encourage assertive and dominant behaviour. Additionally, athletes often demonstrate higher levels of hope and optimism-personality traits developed through goal-setting, resilience-building activities, and the support systems found in sports environments (Cashman, 2015; Evans, 2023; Seale, 2024) ^[15, 21, 47]. Athletes' training and experience in overcoming adversity contribute to a positive outlook on life and their ability to cope effectively with stress. These results highlight the complex interplay between the psychological characteristics and behavior of athletes compared to non-athletes. Athletes, especially in contact sports such as soccer and hockey, exhibit higher levels of physical aggression than non-athletes, and sporting cultures often encourage and normalize this aggression. Intense training programs and competitive environments further develop aggressive traits in athletes (Kumar, 2018) ^[29]. Social expectations associate masculinity with aggression, which contributes to higher levels of aggression among male athletes (Bhalla, 2018) ^[15]. These factors highlight the need to develop strategies for managing aggression in sports and daily life, considering biological, psychological and social aspects. The intense physical interactions inherent in sports can increase aggression in athletes, and training styles that use verbal aggression can hurt athletes' motivation, leading to anxiety and a more authoritarian approach. While athletes do not show significantly higher levels of verbal aggression than non-athletes, the competitive setting and coaching methods can intensify these behaviours. Xia *et al.* (2019) ^[60] found that athletes exhibited higher levels of physical aggression than non-athletes and that there was a negative correlation between coaches' verbal aggression and athletes' intrinsic motivation. Research has shown that athletes, especially in contact sports, exhibit higher levels of anger and hostility than non-athletes. Factors such as testosterone levels, social norms, and competitive environment contribute to these differences (Khan, 2021) ^[27].

Cultural and social norms: Complex social norms that equate masculinity to aggression and contribute to healthier behaviours.

Psychological training: Incorporating psychological skills training into sports programs helps athletes manage their emotions and control aggression constructively.

Athletes, especially males, may exhibit higher levels of aggression, this is not an innate trait, but rather a response to environmental demands and expectations. Understanding these factors is important for developing interventions that can reduce aggression and promote healthier behaviours on and off the field. Men generally exhibit higher levels of aggression than women due to social and cultural norms that encourage more assertive behaviour and competitive environments that intensify feelings of anger and hostility. They also tend to have higher optimism and resilience, which helps them manage stress better (Bjuggren, 2016; Sojer, 2023) ^[10, 51]. Athletes also exhibit higher levels of hope and optimism, which enhances performance, stress management, and resilience. This positive forecast is associated with

effective strategies to overcome and set objectives. On the contrary, athletes gain higher evaluations of hostility and aggression, which has no significant difference in verbal aggression between groups. The combination of rigorous training, goal orientation, and psychological resilience fosters greater hope and optimism in athletes, equipping them with essential life skills. Studies show no significant correlation between self-efficacy and resilience in either group. Self-efficacy, the belief in one's ability to succeed, and resilience, the ability to bounce back from adversity, are critical to performance and coping in sports. Comparisons between athletes and non-athletes revealed no significant difference in self-efficacy, with athletes (26.25) and non-athletes (27.62; t -value 1.734, $p > 0.05$) demonstrating similar perceptions of ability. Sustainability varies by context and other factors.

Gender differences in groups

Research consistently shows significant gender disparities in aggression between athletes and non-athletes, with males typically exhibiting higher levels of physical aggression, verbal aggression, anger, and hostility compared to females. Elevated testosterone levels in males, particularly in competitive sports settings, are a key factor contributing to their greater physical aggression (Khan, 2021) ^[27]. Levels of testosterone, a hormone associated with aggression, are generally higher in men and can be further elevated by the stress of physical activity and competition, reinforcing aggressive tendencies. Social and cultural norms also play an important role in these disparities. From a young age, men are often encouraged to behave aggressively and dominantly, which can manifest as verbal aggression. These societal norms and expectations are further reinforced in sporting environments, where aggressive behaviour is seen as a prerequisite for success. The culture of competitiveness in sports can intensify these behaviours, as athletes are frequently placed in high-pressure situations that demand assertiveness and dominance to achieve success. Men commonly showed up heightened levels of anger and hostility, especially in competitive environments. Competitive sports provide a context where these emotions are not only expected but can be advantageous. The pressure to win and the physical nature of many sports can lead to increased expressions of anger and hostility. This is especially obvious for contact sports such as football and hockey. In this sport, physical attack is an essential part of the game. The combination of biological, psychological, and social factors emphasizes the importance of developing effective strategies to manage aggression in sports and everyday life.

Comparison of male athletes and non-athletes on various psychological traits and levels of aggression, including physical and verbal aggression, anger, hostility, hope, self-efficacy, optimism, and resilience

Research highlights those male athletes, particularly in contact sports, exhibit higher levels of physical aggression than non-athletes due to factors such as dominant masculine norms and competitive environments (Bhalla, 2018) ^[15]. Studies have also shown that male athletes have higher levels of optimism and resilience compared to non-athletes, which are associated with mental toughness and social support (Liew *et al.*, 2019; Purcell *et al.*, 2019) ^[30, 42]. Athletes often have higher optimism due to their training, objectives and support systems, which helps them maintain a positive perspective and manage challenges (Seale, 2024; Cashman, 2015; Evans, 2023) ^[47, 15, 21]. Non-sportspersons, on the other hand, tend to

show greater resilience, benefiting from various stressors and social support networks (Shrivastava, 2019; Gupta, 2024) [49, 22]. Differences in verbal aggression, hope, and self-efficacy between athletes and non-athletes are small because these traits are influenced by individual personality and environmental factors, not just sports participation (Chen *et al.*, 2019; Mitić *et al.*, 2021) [14, 33, 1]. These findings suggest that while sports may shape certain psychological traits, broader factors also play an important role.

Comparative analysis of female athletes and non-athletes on various psychological traits and levels of aggression

Research has shown that female athletes often display higher levels of physical and verbal aggression, anger, and hostility compared to non-athletes, and this increased aggression may be due to the competitive sports environment, psychological preparation, and hormonal influences such as increased testosterone levels (Denson *et al.*, 2018) [16]. Cultural and social norms in sports often encourage aggressive behavior to achieve success, which may lead to increased aggression (Hadapad, 2018) [23]. Female athletes may also respond more aggressively to provocations due to the competitive nature of the sport. Despite these differences in aggression, there were no significant differences in hope, optimism, self-efficacy, and stability between athletes and athletes, not athletes and athletes. Hope includes religion to the ability to achieve goals and motivation, but optimism reflects the overall expectations of positive results. Athletes and non-athletes can develop high levels of these traits through different life experiences and coping strategies (D'Souza *et al.*, 2021) [19]. Playing sports can enhance these traits through teamwork, goal setting, and overcoming challenges, but non-athletes can also develop these traits through academics, the arts, and personal experiences (Kumar, 2017) [18]. These findings suggest that psychological traits such as hope, optimism, self-efficacy and resilience are influenced by a wide range of factors beyond simple sport participation. Women and non-athletes could develop these qualities through a variety of experiences and avenues of personal growth.

Conclusion

From the present study it can be concluded that:

1. Sportspersons have higher levels of aggression, anger, hope and optimism.
2. No difference was found between the two groups concerning self-efficacy and resilience.
3. Considering gender it is found that males scored higher in aggression, anger and hostility than females whereas no difference was found between males and females concerning optimism, hope, self-efficacy and resilience.

Implication of the study

The present research findings are of much significance in understanding psychosocial profiles of sportspersons. The present research highlights the differences in aggression, hope, and resilience among sportspersons and non-sportspersons. It will contribute to understanding sportsperson's psychology and enhancement of their performance. Furthermore, the results of the present research are expected to prove worthwhile in understanding their psychological capital of them. It will also help formulate and implement psychological counselling of sportspersons to enhance their ability. Thus, it would, in turn, pave the way for their well-being.

Limitations

The current study has various limitations, mainly stemming from the purposive sampling technique employed. The small sample size hinders the ability to generalize the results, favouring an ideographic perspective. Utilizing multiple questionnaires may lead to inaccuracies and subjective bias. Furthermore, the study's cross-sectional design limits the ability to conclude the evolution and changes of the variables over time. It also failed to distinguish between male and female athletes, and the findings are specific to participants from Kolkata, which restricts cultural applicability.

Future directions

Additional research in this field could shed light on various factors such as personality traits, coping mechanisms, and the general well-being of athletes. Longitudinal studies would improve our comprehension of how these individuals develop over time. Furthermore, an in-depth qualitative analysis targeting specific variables could offer a richer understanding of athletes' experiences. Investigating potential differences in aggression and psychological capital between male and female athletes could also uncover noteworthy gender distinctions if they exist.

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