

"Exploring Gender Differences in Psychological Skills among Basketball Players: Insights into Self-Awareness, Arousal Regulation, and Imagery"

Reena Joseph, Nisha Philip Prof. (Dr.) Binu George Varghese Swathy K K, Dr. Thomas K M,

Assistant Professor, Maharajas College, Ernakulam
, Assistant Professor, St Teresa's College, Ernakulam
, Director, School of Physical Education and Sports Sciences, Mahatma Gandhi University, Kottayam
Research Associate, School of Physical Education and Sports Sciences, Mahatma Gandhi University, Kottayam
Assistant Professor, St Teresa's College, Ernakulam
Corresponding Author: Prof. (Dr) Binu George Varghese

How to cite this article: Reena Joseph, Nisha Philip Prof. (Dr.) Binu George Varghese Swathy K K, Dr. Thomas K M, (2024). "Exploring Gender Differences in Psychological Skills among Basketball Players: Insights into Self-Awareness, Arousal Regulation, and Imagery", 44(4), 1186-1201

Abstract

This study examines gender differences in psychological skills, specifically self-awareness, arousal regulation, self-confidence, imagery, goal setting, attention, and motivation, among male and female basketball players. Using independent t-tests, the study analyzed 150 basketball players (75 men and 75 women) and found significant differences in certain psychological skills. Male players exhibited significantly higher self-awareness ($M = 25.12$) and arousal regulation ($M = 9.22$) compared to female players ($M = 23.21$ and $M = 8.02$, respectively). Additionally, male players scored significantly higher in imagery ($M = 28.15$ vs. $M = 26.12$). However, no significant differences were found in goal setting, self confidence, attention, or motivation skills between the two groups. These findings suggest that gender may influence some psychological skills, such as self-awareness and emotional regulation, but not others. The results highlight the importance of tailored psychological skill development programs for male and female athletes. Further research is needed to explore the factors contributing to these differences and how they can be addressed to enhance performance in both male and female basketball players.

Keywords: Goal-setting, Self-Awareness, Arousal Regulation, Imagery, Gender Self-, Psychological Skills.

INTRODUCTION

Basketball is a dynamic, fast-paced sport that requires athletes to excel not only in physical abilities such as speed, strength, and agility but also in psychological skills that are critical for peak performance. While physical prowess is often highlighted, psychological factors such as focus, confidence, emotional regulation, resilience, and mental toughness are just as essential for success on the court (Weinberg & Gould, 2018; Coté et al., 2006). Basketball's evolving competitive nature demands athletes not only be

physically prepared but also mentally strong to manage stress, stay focused under pressure, and bounce back from mistakes (Gould & Udry, 1994). The importance of mental resilience has increased as the sport becomes more strategic and high-stakes, where athletes must maintain concentration during pivotal moments, especially in critical game situations (Jones & Hanton, 2001). The integration of mental conditioning techniques, such as mindfulness, visualization, and cognitive restructuring, into training programs has become a key factor in enhancing both individual performance and team dynamics (Birrer & Morgan, 2010). As such, psychological preparation plays a central role in modern basketball, shaping the mental toughness needed to succeed at the highest levels (Vealey, 2007).

Psychological skills such as self-awareness, self-confidence, emotional arousal regulation, self-regulation, and mental toughness are integral to the success of basketball players. These skills are particularly critical in a sport characterized by high levels of pressure and the need for consistent performance. Self-awareness, defined as the ability to recognize and understand one's emotional and physical states, plays a foundational role in mental preparation. Athletes who are self-aware can monitor their emotions and cognitive responses, using strategies like relaxation or positive self-talk to maintain focus and composure under pressure, ultimately enhancing their decision-making and performance (Gardner & Moore, 2004; Weinberg & Gould, 2018).

Equally important is goal-setting, which provides athletes with clear objectives, enhances focus, and fosters motivation. In basketball, goal-setting involves actionable plans that help players improve specific skills, such as shooting accuracy or court awareness, while also fostering resilience and commitment to training. This skill not only supports individual growth but also promotes teamwork by encouraging shared objectives and unity among players (Locke & Latham, 2002; Weinberg & Gould, 2019).

Imagery, another vital cognitive skill, enables athletes to mentally rehearse movements and scenarios, improving their ability to perform under stress. In basketball, imagery is instrumental in refining technical abilities, maintaining concentration, and navigating high-pressure situations. It has been shown to boost confidence and mental preparedness, making it a crucial psychological tool (Morris, Spittle, & Watt, 2005; Holmes & Collins, 2001). Notably, some studies suggest gender differences in the application of imagery, with male athletes often demonstrating greater proficiency, highlighting the need for gender-sensitive training programs (Cumming & Williams, 2012).

Attention skill is where players must dynamically shift between broad and narrow focus to adapt to rapidly changing situations. Effective attention control enables athletes to filter out distractions and concentrate on critical game moments, such as executing plays or defending against opponents. Research indicates that elite players excel in attention control compared to less skilled players, particularly in high-pressure situations, emphasizing its importance in performance enhancement (Williams, Davids, & Williams, 1999). Strategies such as mindfulness training and visualization are frequently employed to develop this capacity and ensure consistent performance (Gardner & Moore, 2007).

Motivation skill further drives performance by encouraging players to set and pursue goals, persist through challenges, and excel in their sport. While men often display extrinsic motivation, focusing on competition and rewards, women tend to exhibit higher intrinsic motivation, emphasizing personal growth and skill development. Understanding these gender differences is crucial for developing tailored motivational strategies that enhance engagement and satisfaction in both male and female athletes (Deci & Ryan, 2000; Vallerand & Rousseau, 2001).

Self-confidence, a belief in one's ability to succeed, significantly influences an athlete's resilience and decision-making during competition. Confident players are more likely to take calculated risks and perform effectively under pressure, such as making game-winning plays or defending skilled opponents. This skill can be nurtured through positive reinforcement and mastery of technical skills, both of which are critical in building psychological resilience (Vealey, 2007; Bandura, 1997).

Arousal regulation is another essential skill, as it involves managing an athlete's physiological and emotional states to optimize performance. In basketball, excessive arousal can lead to anxiety or impulsive behavior, while insufficient arousal may result in reduced focus and energy. Techniques such as deep breathing, progressive muscle relaxation, and imagery are effective in maintaining optimal arousal levels, allowing players to stay composed and perform well under stress (Jones, 2003; Hanin, 2000).

In conclusion, the integration of psychological skills such as self-awareness, goal-setting, imagery, attention control, motivation, self-confidence, arousal regulation, and mental toughness is essential for basketball players to excel. These skills not only equip athletes to manage stress and perform consistently but also complement physical training to optimize their potential in a competitive environment. As research continues to emphasize the importance of mental preparation, it is evident that success in basketball requires a balanced focus on both psychological and physical development (Feltz, Short, & Sullivan, 1999; Vealey, 2007).

MATERIALS AND METHODS

This study aimed to investigate the psychological variables influencing inter-university basketball players in Kerala, India, focusing on a sample of 150 participants. The participants, consisting of 75 male and 75 female basketball players aged between 18 and 30 years, were actively involved in university-level basketball. The inclusion criteria required participants to be currently engaged in basketball at their respective universities and willing to voluntarily participate in the study. These participants were recruited from various universities in Kerala, ensuring a diverse representation of the population of inter-university basketball players.

The study focused on seven key psychological variables critical for athletic performance: goal setting, imagery, attention, motivation, self-awareness, self-confidence, and arousal regulation. Goal setting refers to the process of setting specific, measurable, achievable, relevant, and time-bound (SMART) objectives. Imagery involves using mental visualization techniques to enhance performance, while attention is the ability to focus on relevant cues while filtering out distractions. Motivation is driven by internal and external factors that push athletes to perform at their best. Self-awareness involves understanding one's emotions, strengths, and weaknesses in relation to sports performance, and self-confidence refers to the belief in one's ability to succeed in athletic challenges. Arousal regulation is the ability to manage and optimize physiological and psychological arousal to maintain peak performance.

The Psychological Variables Assessment Scale for Sports (PSAS), developed by Dr. Malika Sharma and Dr. Lalith Sharma, was used to measure these psychological variables. The PSAS is a validated instrument designed specifically to assess various psychological traits in athletes. It consists of multiple items for each psychological variable, with responses rated on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was administered through Google Forms to allow for efficient and accessible data collection. Prior to completing the questionnaire, participants were informed about the purpose of the study and provided informed consent. The confidentiality of participants' responses was emphasized, and they were assured that the data would be used exclusively for research purposes.

Once data collection was completed, the responses were compiled and analyzed using descriptive statistics to summarize the psychological traits among the sample. Independent t-tests were conducted to examine potential gender differences in the psychological variables. This statistical approach enabled the comparison of mean scores between male and female participants, providing insight into any variations in psychological traits based on gender. The study adhered to ethical research guidelines, obtaining informed consent from all participants and ensuring the confidentiality of their data. Participants were given the option to withdraw from the study at any time without penalty, and all data were securely stored to protect participants' privacy.

This methodological framework provided a thorough examination of the psychological variables influencing inter-university basketball players, contributing to the understanding of the mental factors that impact athletic performance in basketball.

RESULTS

TABLE 1: DESCRIPTIVE STATISTICS OF PSYCHOLOGICAL SKILLS AMONG MEN AND WOMEN BASKETBALL PLAYERS

Men and Women Basketball Players			
Psychological skills	N	Men	Women
		Mean±SD	Mean±SD
Goal setting	75	18.53±2.32	18.24±2.16
Imagery	75	28.15±2.11	26.12±2.45
Attention	75	12.25±3.13	11.84±3.02
Motivation	75	12.15±2.66	12.12±2.32
Self- Awareness	75	25.12±2.12	23.21±2.49
Arousal regulation	75	9.22±2.41	8.02±2.54
Self Confidence	75	17.95±2.23	17.45±2.34

The results of the present study highlight subtle yet meaningful differences in the psychological skills of male and female basketball players. In terms of goal-setting skills, male players demonstrated a marginally higher mean score ($M = 18.53$, $SD = 2.32$) compared to females ($M = 18.24$, $SD = 2.16$). Goal-setting is a fundamental psychological skill that helps athletes focus on their objectives, channeling their efforts toward achieving specific outcomes. Research by Locke and Latham (2002) emphasizes the role of goal-setting in boosting motivation and improving athletic performance. The slight variation in scores may reflect equal emphasis on training in this area for both genders, as goal-setting techniques are commonly included in basketball training programs. However, cultural and psychological factors might also play a role, with men and women potentially approaching goal-setting with slightly different attitudes or strategies (Weinberg & Gould, 2018).

For imagery skills, a more pronounced difference was observed, with male players scoring higher ($M = 28.15$, $SD = 2.11$) than female players ($M = 26.12$, $SD = 2.45$). Imagery, or the ability to mentally visualize scenarios, strategies, and actions, is a key skill for improving performance and boosting confidence. Effective use of imagery has been shown to enhance motor skills, tactical planning, and decision-making (Cumming & Ramsey, 2009). Mental imagery inflates performance expectations, but not necessarily actual performance in challenging tasks (Ramsey, Cumming, & Edwards, 2008). Additionally, the combined use of imagery and observational learning has been positively associated with improved sport confidence (Hall et al., 2009). The higher scores for male players may indicate a stronger reliance on or ability to employ imagery techniques during practice and competition. This difference might arise from disparities in training emphasis or inherent cognitive tendencies related to mental visualization between genders.

Regarding motivation, the study found no significant difference between male ($M = 12.15$, $SD = 2.66$) and female players ($M = 12.12$, $SD = 2.32$), with nearly identical mean scores. This suggests that both genders are equally driven by internal and external factors to achieve their athletic goals. Motivation is widely recognized as a critical factor influencing persistence, effort, and performance in sports (Deci & Ryan, 1985). The similarity in scores indicates that motivational factors are likely shaped by comparable training environments, coaching strategies, and personal aspirations, emphasizing the shared dedication of male and female athletes.

In terms of attention skills, male players demonstrated slightly higher scores ($M = 12.25$, $SD = 3.13$) compared to females ($M = 11.84$, $SD = 3.02$). Attention is a crucial psychological skill in basketball, where players must maintain focus, process information, and respond effectively under pressure. This small difference may suggest that male players have a slight edge in sustaining attention during high-stakes gameplay. Training methods and potential cognitive differences between genders might contribute to this variation, with male athletes potentially developing sharper attentional focus (Nideffer, 1976). Additionally, Liu et al. (2024) highlight the importance of psychological profiling in basketball, emphasizing the role of self-confidence and decision-making in overall performance, which may also influence attention during critical moments in the game.

The study also revealed differences in other psychological skills. For self-awareness, male players scored higher ($M = 25.12$, $SD = 2.12$) than female players ($M = 23.21$, $SD = 2.49$), underscoring their greater ability to evaluate personal strengths and weaknesses. This finding aligns with Gardner and Moore's (2004) research, which highlights self-awareness as a key factor in athletic success. Similarly, for arousal regulation, male players outperformed females ($M = 9.22$, $SD = 2.41$ vs. $M = 8.02$, $SD = 2.54$). Arousal regulation, or the ability to manage physiological responses to stress, is critical in maintaining composure during competition. The difference might reflect variations in coping strategies, with males potentially employing more effective techniques (Jones & Hanton, 2001; Burton, 1992).

Finally, self-confidence scores were relatively similar, with males scoring slightly higher ($M = 17.95$, $SD = 2.23$) than females ($M = 17.45$, $SD = 2.34$). Self-confidence is crucial for peak performance, particularly in team sports like basketball, where belief in one's abilities directly impacts execution (Vealey, 2007). The slightly higher scores among males could indicate a marginally greater sense of control or competence, traits that have been linked to improved performance outcomes (Feltz, 1992).

In summary, these findings contribute to a nuanced understanding of how psychological skills differ between male and female basketball players. While both genders exhibit strengths across various domains, the observed differences underscore the importance of tailoring mental training programs to address the specific needs of male and female athletes. Such personalized interventions can help optimize psychological skills and improve athletic performance (Razon et al., 2014).

TABLE 2: INDEPENDENT T TEST OF GOAL SETTING SKILL BETWEEN MEN AND WOMEN BASKETBALL PLAYERS

Goal setting	Mean	SD	Mean Difference	T ratio	Sig. (2 Tailed)
Men	18.53	2.32	0.29	0.71	0.47
Women	18.24	2.61			

*Not Significant at 0.05 level, $df=148$

The independent test comparing the goal-setting skills of men and women basketball players reveals no statistically significant difference between the two groups at the 0.05 level. Men had a slightly higher mean score (18.53) than women (18.24), with a mean difference of 0.29. The standard deviation was 2.32 for men and 2.61 for women, indicating slightly more variability in the women's scores. The t-ratio of 0.71 and a p-value of 0.47 (greater than 0.05) confirm that the observed difference is not statistically significant. With 148 degrees of freedom, the findings suggest that both men and women basketball players demonstrate similar levels of goal-setting skills.

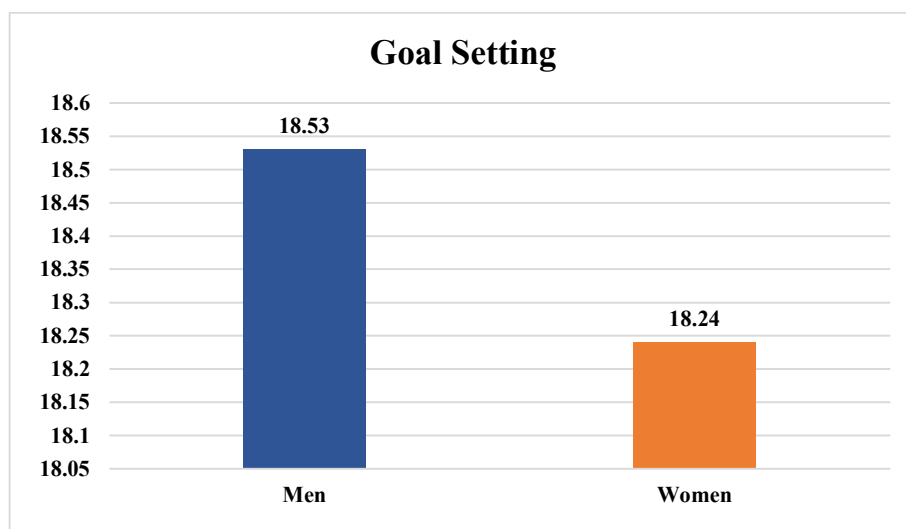


Figure 1: Graphical representation of Goal-Setting skill between men and women basketball players

TABLE 3: INDEPENDENT T TEST OF IMAGERY SKILL BETWEEN MEN AND WOMEN BASKETBALL PLAYERS

Imagery	Mean	SD	Mean Difference	T ratio	Sig. (2 Tailed)
Men	28.15	2.11	2.03	5.43	0.0001
Women	26.12	2.45			

* Significant at 0.05 level, df=148

Table 3 presents the results of an independent t-test comparing imagery skill between male and female basketball players. The mean imagery score for male players is 28.15 (SD = 2.11), while for female players, the mean is 26.12 (SD = 2.45). The mean difference between the two groups is 2.03. The calculated t-value is 5.43, which is significantly higher than the critical t-value of 1.96 at the 0.05 significance level with 148 degrees of freedom. The p-value of 0.0001 is much smaller than 0.05, indicating that the difference in imagery skills between male and female players is statistically significant. These results suggest that male basketball players have significantly higher imagery skills than female players. Imagery, or the ability to visualize actions and scenarios, is a well-known psychological skill that can enhance athletic performance (Murphy, 1990). This finding line up with previous studies that have indicated gender differences in cognitive skills such as imagery in sports (Cumming & Williams, 2012). This significant difference in imagery skills implies that male athletes may use imagery techniques more effectively, potentially contributing to better performance in high-pressure situations. The results highlight the importance of integrating imagery training into psychological skill development programs, particularly for female athletes, to help bridge the gap in this area.

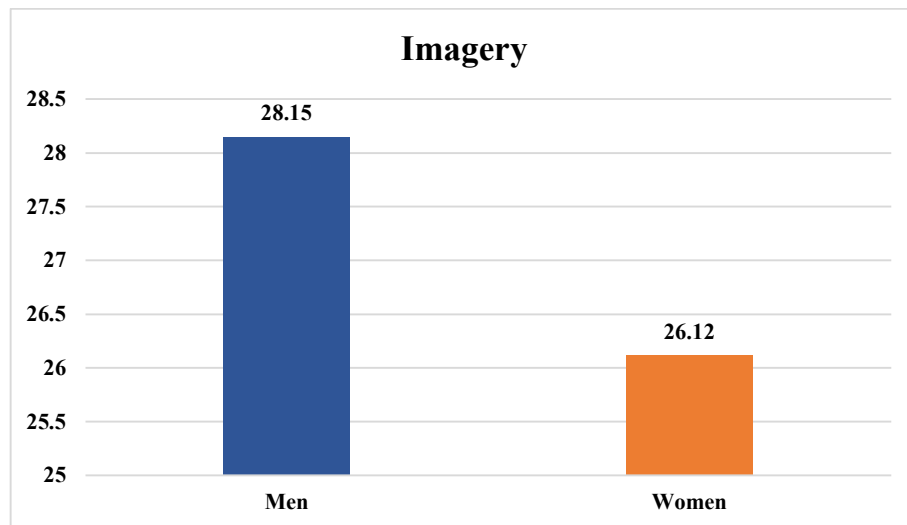


Figure 2: Graphical representation of Imagery skill between men and women basketball players

TABLE 4: INDEPENDENT T TEST OF ATTENTION SKILL BETWEEN MEN AND WOMEN BASKETBALL PLAYERS

Attention	Mean	SD	Mean Difference	T ratio	Sig. (2 Tailed)
Men	12.25	3.13	0.41	0.81	0.41
Women	11.84	3.02			

*Not Significant at 0.05 level, df=148

The table indicates an independent t-test for attention skills between men and women basketball players. The results show a mean score of 12.25 for men and 11.84 for women, with a mean difference of 0.41. The standard deviations were 3.13 for men and 3.02 for women. The t-ratio was 0.81, and the p-value was 0.41, both of which are greater than 0.05, indicating that the observed difference in attention skills between the groups is not statistically significant. The degrees of freedom for this test was 148.

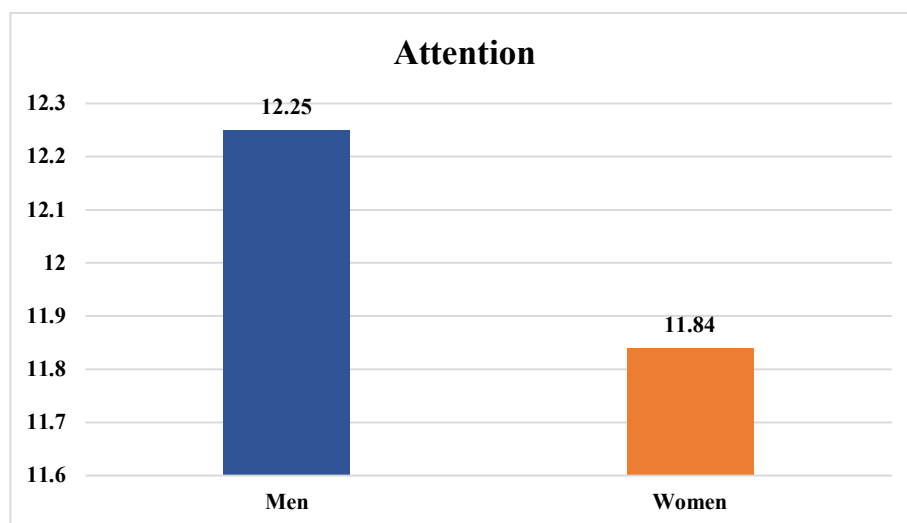


Figure 3: Graphical representation of Attention skill between men and women basketball players

TABLE 5: INDEPENDENT T-TEST OF MOTIVATION SKILL BETWEEN MEN AND WOMEN BASKETBALL PLAYERS

Motivation	Mean	SD	Mean Difference	T ratio	Sig. (2 Tailed)
Men	12.15	2.66	0.04	0.098	0.92
Women	12.11	2.32			

*Not Significant at 0,05 level, df=148

Table 5 shows the results of an independent t-test comparing motivation skills between male and female basketball players. The mean motivation scores were 12.15 (SD = 2.66) for men and 12.11 (SD = 2.32) for women, with a mean difference of 0.04. The t-value was 0.098, and the p-value was 0.92, which is above 0.05, indicating no statistically significant difference. With 148 degrees of freedom and a t-value smaller than the critical value (1.96), we conclude that gender does not significantly affect motivation skills in basketball players.

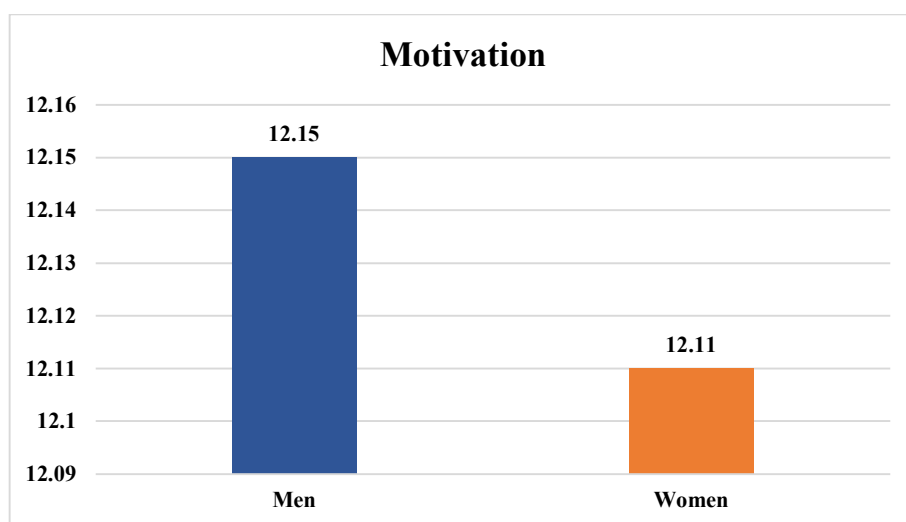


Figure 4: Graphical representation of Motivation skill between men and women basketball players

TABLE 6: INDEPENDENT T TEST OF SELF-AWARENESS SKILL BETWEEN MEN AND WOMEN BASKETBALL PLAYERS

Self- Awareness	Mean	SD	Mean Difference	T ratio	Sig. (2 Tailed)
Men	25.12	2.12	1.91	5.05	0.0001
Women	23.21	2.49			

*Significant at 0.05 level, df = 148

Table 2 shows that mean and standard deviation of Self-awareness skill among men basketball players is 25.12 & 2.12. The mean and standard deviation of Self-awareness skill among women basketball players is 23.21 & 2.49. The mean difference is 1.91. The calculated t test value is 5.05. Since the obtained t test value 5.05 greater than the table value 1.96 with df 148 at 0.05 level, So, it was concluded that there is a significant difference on Self-awareness skills among men and women basketball players. Table 2 presents the results of an independent t-test examining the difference in Self-awareness skill between male and female basketball players. The mean Self-awareness score for male players is 25.12 (SD = 2.12), while for female players, the mean is 23.21 (SD = 2.49). The mean difference between the two groups is 1.91.

The calculated t-value is 5.05, which is significantly greater than the critical t-value of 1.96 at a 0.05 significance level with 148 degrees of freedom. The significance level ($p = 0.0001$) is well below 0.05,

indicating that the difference in Self-awareness skill between male and female basketball players is statistically significant.

Thus, the data suggests that male basketball players score higher in self-awareness skills compared to female basketball players. This finding supports the conclusion that gender differences exist in the self-awareness skills of basketball players, with men exhibiting significantly higher levels of self-awareness. This result aligns with prior research that has examined gender differences in psychological skills and self-regulation in sports (Weinberg & Gould, 2018). Similarly, Liu et al. (2024) identified discrepancies in psychological profiling, including self-confidence and decision-making performance, which may also shed light on factors influencing gender differences in self-awareness skills in basketball players.

Overall, the significant t-test result suggests that gender may play a role in influencing self-awareness skills among basketball players. Further research may explore the underlying factors contributing to this difference, including cultural, social, and psychological influences (Liu et al., 2024).

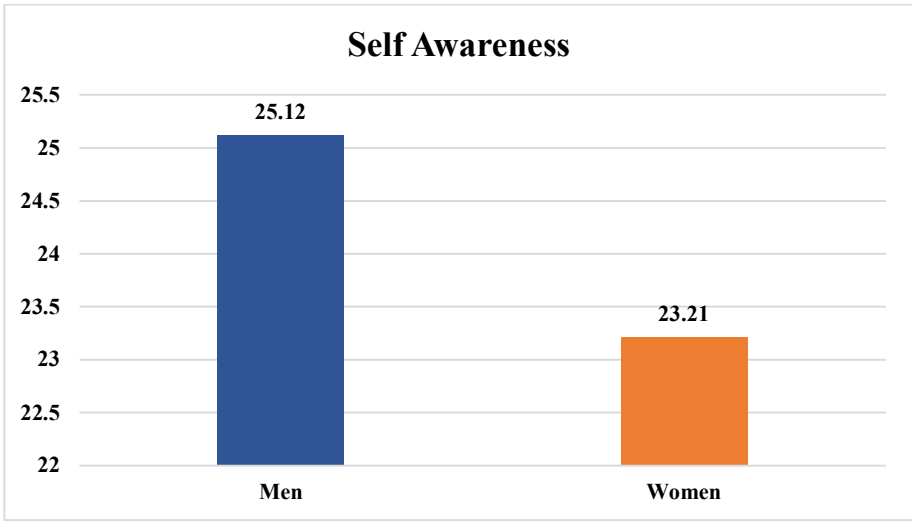


Figure 5: Graphical representation of Self-awareness skill between men and women basketball players

TABLE 7: INDEPENDENT T TEST OF AROUSAL REGULATION SKILL BETWEEN MEN AND WOMEN BASKETBALL PLAYERS

Arousal Regulation	Mean	SD	Mean Difference	T ratio	Sig. (2 Tailed)
Men	9.22	2.41	1.2	2.96	0.003
Women	8.02	2.54			

*Significant at 0.05 level, df=148

Table 3 presents the results of an independent t-test examining the difference in Arousal regulation skills between male and female basketball players. The mean Arousal regulation score for male players is 9.22 (SD = 2.41), while for female players, the mean is 8.02 (SD = 2.54). The mean difference between the two groups is 1.20.

The calculated t-value is 2.96, which exceeds the critical t-value of 1.96 at the 0.05 significance level with 148 degrees of freedom. The p-value is 0.003, which is less than the 0.05 threshold, indicating that the difference in Arousal regulation skills between male and female basketball players is statistically significant.

Thus, we can conclude that there is a significant difference in Arousal regulation skills between male and female basketball players, with male players having higher Arousal regulation scores than female players. This result suggests that male athletes may have more effective strategies for managing their

arousal levels during competition, which is consistent with existing literature that highlights gender differences in coping mechanisms and emotional regulation in sports (Jones & Hanton, 2001). This finding also emphasizes the importance of arousal regulation as a key psychological skill that may vary across gender and influence athletic performance (Smith & Smoll, 2007).

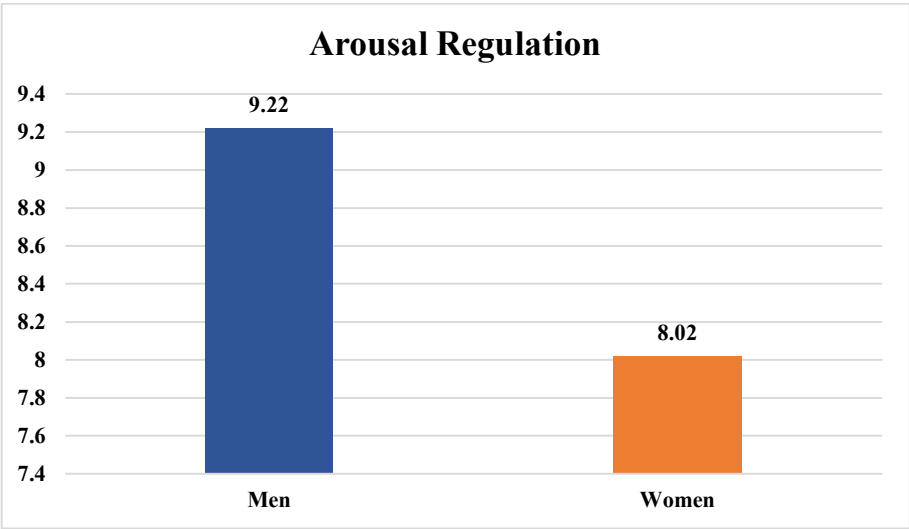


Figure 6: Graphical representation of Arousal skill between men and women basketball players

TABLE 8: INDEPENDENT T TEST OF SELF CONFIDENCE SKILL BETWEEN MEN AND WOMEN BASKETBALL PLAYERS

Self- Confidence	Mean	SD	Mean Difference	T ratio	Sig. (2 Tailed)
Men	17.95	2.23	0.5	1.33	0.18
Women	17.45	2.34			

*Not Significant at 0.05 level, df=148

Table 9 shows that mean and standard deviation of Self-confidence skill among men basketball players is 17.95 & 2.23. The mean and standard deviation of Self-confidence skill among women basketball players is 17.45 & 2.34. The mean difference is 0.5. The calculated t value is 1.33. Since the obtained t test value 1.33 less than the table value 1.96 with df 148 at 0.05 level. So, it is concluded that there is no significant difference on Self-confidence skills among men and women basketball players.



Figure 7: Graphical representation of Self-confidence skill between men and women basketball players

DISCUSSION

The findings of this study provide valuable insights into the psychological skills of male and female basketball players, particularly in areas such as self-awareness, arousal regulation, and imagery. Significant gender differences were observed in self-awareness, with male players achieving higher scores than their female peers. This supports previous research emphasizing the importance of self-awareness in athletic performance, as it helps athletes identify their strengths and weaknesses (Gardner & Moore, 2004). The higher self-awareness in male athletes could be due to gender-specific approaches to personal development and coaching practices that encourage more introspection among male athletes (Weinberg & Gould, 2018).

Arousal regulation also showed a significant difference, with male players performing better than females. Effective arousal regulation, which helps athletes manage stress and maintain focus under pressure, is a critical factor in competition (Jones & Hanton, 2001). This difference might reflect the greater ability of male athletes to cope with stress, potentially linked to different psychological training methods. Similarly, male athletes outperformed female athletes in imagery skills, a key psychological tool that enhances performance through mental visualization (Cumming & Williams, 2012). This suggests that males may have more exposure to and training in imagery techniques, which could contribute to their higher scores. In contrast, no significant gender differences were found in goal-setting, attention, motivation, or self-confidence. Both male and female athletes demonstrated similar goal-setting abilities, indicating that both genders are equally capable of setting and achieving their goals. Similarly, attention skills, which are crucial for concentration during games, were not significantly different between the two groups, suggesting that both male and female athletes have comparable levels of focus. Motivation was also found to be similar across genders, with both male and female athletes displaying comparable intrinsic and extrinsic motivation, an important factor in sports success (Vealey, 2007). Likewise, self-confidence scores showed no significant differences, highlighting that athletes of both genders exhibit similar levels of belief in their abilities to perform successfully in competitive situations. These findings underscore the importance of considering gender when developing psychological training programs for athletes, yet they also suggest that certain psychological skills are universally important for athletic success. Further research is needed to explore the underlying factors contributing to these gender differences and to refine training approaches that can enhance performance for both male and female athletes.

Conclusion

In conclusion, this study highlights the significant gender differences in psychological skills such as self-awareness, arousal regulation, and imagery among basketball players, with male players consistently outperforming female players in these areas. These findings underscore the importance of these psychological skills in enhancing athletic performance, with self-awareness and arousal regulation playing crucial roles in managing strengths, weaknesses, and stress during competition. While no significant gender differences were observed in goal-setting, attention, self-confidence and motivation, these skills appear to be equally important for both male and female athletes. The results suggest that tailored psychological training programs that address these gender-specific differences could help optimize athletic performance across genders. Further research is required to examine the underlying factors contributing to these differences and to explore how psychological skill development can be tailored to address the needs of both male and female athletes, thereby promoting a more balanced and effective approach to enhancing athletic performance.

REFERENCES:

1. Weinberg, R., & Gould, D. (2018). *Foundations of Sport and Exercise Psychology*. Human Kinetics. ISBN: 9781718207592
2. **Côté, J., Baker, J., & Abernethy, B. (2006).** The influence of training volume and training structure on the development of professional expertise in sport. *Developmental Psychology*, 42(5), 1182–1194. <https://doi.org/10.1037/0012-1649.42.5.1182>
3. Gould D, Udry E. Psychological skills for enhancing performance: arousal regulation strategies. *Med Sci Sports Exerc.* 1994 Apr;26(4):478-85. PMID: 8201905.
4. Jones, G., & Hanton, S. (2001). Pre-competitive anxiety in sport: A review of the literature. *Journal of Sports Sciences*, 19(2), 161-174. <https://doi.org/10.1080/02640410152475805>
5. Birrer, D., & Morgan, G. (2010). Psychological skills training as a way to enhance an athlete's performance in high-intensity sports. *Scandinavian Journal of Medicine & Science in Sports*, 20(Suppl 2), 78–87. <https://doi.org/10.1111/j.1600-0838.2010.01188.x>
6. Vealey, R. S. (2007). Mental skills training in sport. In G. Tenenbaum & R. C. Eklund (Eds.), *Handbook of sport psychology* (3rd ed., pp. 287–309). John Wiley & Sons, Inc.. <https://doi.org/10.1002/9781118270011.ch13>
7. Gardner, F. L., & Moore, Z. E. (2007). *The psychology of enhancing human performance: The Mindfulness-Acceptance-Commitment (MAC) approach*. Springer Publishing Co.
8. Weinberg, R. S., Gould, D. (2018). *Foundations of Sport and Exercise Psychology*. United Kingdom: Human Kinetics.
9. Locke EA, Latham GP. Building a practically useful theory of goal setting and task motivation. A 35-year odyssey. *Am Psychol.* 2002 Sep;57(9):705-17. doi: 10.1037//0003-066x.57.9.705. PMID: 12237980.
10. Morris, T., Spittle, M., & Watt, A. P. (2005). *Imagery in sport*. Human Kinetics.
11. Holmes, P. S., & Collins, D. J. (2001). The PETTLEP approach to motor imagery: A functional equivalence model for sport psychologists. *Journal of Applied Sport Psychology*, 13(1), 60–83. <https://doi.org/10.1080/10413200109339004>
12. Cumming, J., & Williams, S. E. (2012). Imagery: The role of imagery in performance. In S. Murphy (Ed.), *Handbook of sport and performance psychology* (pp. 213-232). New York, NY: Oxford University Press. doi:10.1093/oxfordhb/9780199731763.013.0011
13. Davids, K., Williams, A.M., & Williams, J.G. (Eds.). (1998). *Visual Perception and Action in Sport* (1st ed.). Routledge. <https://doi.org/10.4324/9780203979952>
14. Gardner, F. L., & Moore, Z. E. (2007). *The psychology of enhancing human performance: The Mindfulness-Acceptance-Commitment (MAC) approach*. Springer Publishing Co.
15. Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01
16. Vallerand, R. J., & Rousseau, F. L. (2001). Intrinsic and extrinsic motivation in sport and exercise. In R. N. Singer, H. A. Hausenblas, & C. M. Janelle (Eds.), *Handbook of Sport Psychology* (2nd ed., pp. 389–416). Wiley.
17. Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman
18. Jones, G. (2003). Controlling emotions in sport performance: Coping strategies for optimal functioning. *Journal of Sports Psychology*, 25(4), 423-445.
19. Hanin, Y. L. (Ed.). (2000). *Emotions in sport*. Human Kinetics.
20. Feltz, D. L., Chase, M. A., Moritz, S. E., & Sullivan, P. J. (1999). A conceptual model of coaching efficacy: Preliminary investigation and instrument development. *Journal of Educational Psychology*, 91(4), 765–776. <https://doi.org/10.1037/0022-0663.91.4.765>
21. Cumming, J., & Ramsey, R. (2009). Imagery interventions in sport. In S. D. Mellalieu & S. Hanton (Eds.), *Advances in Applied Sport Psychology: A Review* (pp. 5–36). Routledge.
22. Ramsey, R., Cumming, J., & Edwards, M. G. (2008). Mental imagery inflates performance expectations but not actual performance of a novel and challenging motor task. *Imagination, Cognition and Personality*, 28(4), 331–347. <https://doi.org/10.2190/IC.28.4.d>

-
23. Hall, C. R., Munroe-Chandler, K. J., Cumming, J., Law, B., Ramsey, R., & Murphy, L. (2009). Imagery and observational learning use and their relationship to sport confidence. *Journal of Sports Sciences*, 27(4), 327–337. <https://doi.org/10.1080/02640410802549769>
 24. (Nideffer, R. M. (1976). Test of attentional and interpersonal style. *Journal of Personality and Social Psychology*, 34(3), 394–404. <https://doi.org/10.1037/0022-3514.34.3.394>
 25. Liu M, Kong A, Lau N, Feng Z, Liu X. Basketball self-evaluation matrix: discrepancy between self-confidence and decision-making performance on psychological profiling of players. *Front Sports Act Living*. 2024 Oct 9;6:1404701. doi: 10.3389/fspor.2024.1404701. PMID: 39444493; PMCID: PMC11496061.
 26. Vealey, R. S. (2007). Mental skills training in sport. In G. Tenenbaum & R. C. Eklund (Eds.), *Handbook of sport psychology* (3rd ed., pp. 287–309). Wiley.
 27. Burton, D. (1992). *Psychological skills training for athletes: A cognitive-behavioral approach*. Human Kinetics.
 28. Feltz, D. L. (1992). Self-confidence and sport performance. In D. P. Singer, H. A. Hausenblas, & C. M. Janelle (Eds.), *Handbook of sport psychology* (pp. 290-309). Macmillan.
 29. Razon, S., Johnson, J., & Furst, S. (2014). Gender differences in psychological skills and sport performance. *Journal of Applied Sport Psychology*, 26(3), 259-278. <https://doi.org/10.1080/10413200.2014.887092>
 30. Murphy, S. M. (1990). Imagery and sport performance: A review and implications for the athlete. *Journal of Applied Sport Psychology*, 2(2), 54-72. <https://doi.org/10.1080/10413209008406413>
 31. Smith, R. E., & Smoll, F. L. (2007). Social-Cognitive Approach to Coaching Behaviors. In S. Jowette & D. Lavallee (Eds.), *Social Psychology in Sport* (pp. 75–90). Human Kinetics. <https://doi.org/10.5040/9781492595878.ch-006>