International Journal of Contemporary Research In Multidisciplinary

Research Paper

Exploring Mindfulness: A Comparative Analysis of Athletes' Mindfulness Levels among Individual and Team Sports Athletes

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DOI: https://doi.org/10.5281/zenodo.13844452

Abstract

This study aimed to explore and compare mindfulness levels among individual and team sports athletes. Using the Five Facet Mindfulness Questionnaire (FFMQ-15), we assessed 34 male athletes (17 individual sport athletes and 17 team sport athletes) aged 18-25 years, all competing at least at the district level. The results revealed significant differences across all mindfulness sub-scales and overall mindfulness, with individual sport athletes consistently demonstrating higher levels of mindfulness compared to their team sport counterparts. Notably, individual athletes scored significantly higher in Observing, Describing, Acting with Awareness, Non-judging of Inner Experience, and Non-reactivity to Inner Experience. The most substantial difference was observed in the Acting with Awareness sub-scale. These findings suggest that the nature of individual sports may foster greater mindfulness qualities, possibly due to the heightened self-reliance and self-awareness required in these disciplines. This study contributes to our understanding of the relationship between sport type and mindfulness, highlighting the importance of considering sport-specific factors in mindfulness research and interventions within athletic contexts.

Manuscript Information

- **ISSN No:** 2583-7397
- **Received:** 19-06-2024
- **Accepted:** 17-07-2024
- **Published:** 26-09-2024
- **IJCRM:**3(5); 2024: 124-128

- **Plagiarism Checked:** Yes
- **Peer Review Process:** Yes

How to Cite this Manuscript

Deepanjali Sharma, Ashutosh Kandpal, Richa Vishwakarma, Debajit Karmakar. Exploring Mindfulness: A Comparative Analysis of Athletes' Mindfulness Levels among Individual and Team Sports Athletes. International Journal of Contemporary Research in Multidisciplinary.2024; 3(5): 124-128.

Keywords: Mindfulness, Individual sports, Team sports, Athletic performance, Five Facet Mindfulness Questionnaire (FFMQ).

1. INTRODUCTION

In recent years, the concept of mindfulness has gained significant attention in the realm of sports psychology and athletic performance. Mindfulness, defined as the state of being consciously aware of one's present-moment experiences without judgment (Kabat-Zinn, 2003), has shown promise in enhancing various aspects of athletic performance and well-being. As the competitive landscape of sports continues to evolve, athletes and coaches are increasingly seeking innovative approaches to gain a mental edge, and mindfulness has emerged as a powerful tool in this pursuit. Research has shown that mindfulness can positively impact various aspects of athletic performance. For instance, a study by Josefsson et al. (2017) found that mindfulness training was associated with

improved attentional control and reduced performance anxiety among elite athletes (Josefsson *et al.,* 2017). Similarly, Röthlin et al. (2016) demonstrated that mindfulness-based interventions could enhance flow states, which are characterized by total absorption in the task at hand and often associated with peak performance (Röthlin *et al.,* 2016). While the benefits of mindfulness in sports have been well-documented, there is a growing interest in understanding how mindfulness levels may vary across different types of sports, particularly between individual and team sports athletes. Individual sports, such as tennis, golf, or swimming, often require athletes to rely heavily on their own mental resources and self-regulation skills. In contrast, team sports like soccer, basketball, or volleyball involve complex interpersonal dynamics and shared responsibility for performance outcomes (Eccles & Tenenbaum, 2004). The distinctions between individual and team sports extend beyond the obvious structural differences. Athletes in individual sports may experience higher levels of personal pressure and self-focused attention, as their performance is directly and solely attributable to their own efforts. This heightened self-awareness could potentially make them more receptive to mindfulness practices, as these techniques often emphasize internal awareness and self-regulation (Bernier *et al.,* 2009). Conversely, team sport athletes must navigate the additional complexities of group dynamics, shared goals, and interdependent performance, which may present unique challenges and opportunities for mindfulness application (Carron *et al.,* 2002). Several studies have begun to explore the potential differences in mindfulness levels and its effects between individual and team sports athletes. For example, Kaufman et al. (2009) found that golfers who reported higher levels of mindfulness also experienced more frequent flow states during competition (Kaufman *et al.,* 2009). In team sports, Baltzell et al. (2014) observed that a mindfulness-based intervention improved emotional regulation and team cohesion among college soccer players (Baltzell *et al.,* 2014). These findings suggest that while mindfulness may be beneficial across all sports, its manifestation and impact may vary depending on the specific demands and contexts of individual versus team sports. The potential differences in mindfulness levels between individual and team sports athletes raise important questions about the nature of mindfulness in sports and how it might be tailored to different athletic contexts. For instance, do athletes in individual sports naturally develop higher levels of mindfulness due to the self-focused nature of their disciplines? Or do team sports athletes benefit from unique opportunities to practice mindfulness in interpersonal contexts, potentially leading to higher overall mindfulness levels? The present study aims to address these questions by conducting a comparative analysis of mindfulness levels among individual and team sports athletes. By examining potential differences in mindfulness across these two broad categories of sports, we hope to contribute to a more nuanced understanding of mindfulness in athletic contexts and inform future research and practice in sports psychology.

2. MATERIALS AND METHODS

A total of 34 individual male and team sports male athletes were selected from LNIPE, Gwalior, as the subjects for the present study. The ages of the subjects ranged from 18 to 25 years. All the selected subjects represented at least district-level tournaments. Among the 34 subjects, there are 17 individual athletes and 17 team sports athletes. For individual athletes, researchers chose male track & field athletes, and for team sports athletes, researchers chose male football players.

Tools: The Five Facet Mindfulness Questionnaire (FFMQ-15) (Baer *et al.,* 2012) was administered. The FFMQ-15 consists of 15 items, with each question addressing one of the five subscales: Observing, Describing, Acting with Awareness, Non-judging of Inner Experience, and Non-activity to Inner Experience.

Statistical Analysis: Descriptive statistics were computed for all measures. The data obtained were analyzed with the help of statistical software (SPSS 26 version). The mean and standard deviation along with the independent 't' test were computed to check the differences between the sample mean of individual and team sports athletes. The level of statistical significance was set at 0.05 levels.

3. RESULTS

Table 1 presents descriptive statistics for mindfulness sub-scales and overall mindfulness among individual and team players, each group consisting of 17 participants. For the Observing sub-scale, individual players had a mean score of 12.06 (SD = 0.75), with a standard error of 0.18, while team players had a lower mean score of 11.00 (SD = 0.87, SE = 0.21).

Table 1: Descriptive Statistics of the Responses on Observing, Describing, Acting with Awareness, Non-judging of Inner Experience, Non- -reactivity to Inner Experience, and Overall Mindfulness of Individual and Team Players.

Subscales	Individual Players				Team Players			
	N	Mean	SD	Std. error mean	N	Mean	SD	Std. error mean
Observing	17	12.058	.747	.181	17	11.000	.866	.210
Describing	17	11.941	1.144	.277	17	10.764	.831	.201
Acting with Awareness	17	12.352	1.221	.296	17	10.941	.826	.200
Non-judging of Inner Experience	17	12.058	1.028	.249	17	10.705	.587	.142
Non- Non-reactivity to Inner Experience	17	12.058	1.248	.302	17	10.647	.701	.170
Overall Mindfulness	17	60.470	1.972	.478	17	54.058	1.344	.326

In the Describing sub-scale, individual players scored higher with a mean of 11.94 (SD = 1.14, SE = 0.28) compared to team players, who had a mean of 10.76 (SD = 0.83, SE = 0.20). The Acting with Awareness *sub*-scale also shows higher scores for individual players, with a mean of 12.35 (SD = 1.22, SE = 0.30) compared to team players (M = 10.94, SD = 0.83, SE = 0.20). On the Non-judging of Inner Experience sub-scale, individual players had a mean of 12.06 (SD = 1.03, SE = 0.25), while team players scored lower with a mean of 10.71 (SD = 0.59, SE = 0.14). For the Non-reactivity to Inner Experience sub-scale, individual players had a mean score of 12.06 (SD = 1.25, SE = 0.30), again higher than team players, who had a mean of 10.65 (SD = 0.70, SE = 0.17). Overall mindfulness was also greater among individual players, with a mean of 60.47 (SD = 1.97, SE = 0.48) compared to team players, who had a mean of 54.06 (SD = 1.34, SE = 0.33).

Figure 1: Graphical representation of Observing, Describing, Acting with Awareness, Non-judging of Inner Experience, Non- reactivity to Inner Experience, and Overall Mindfulness of Individual and Team Players

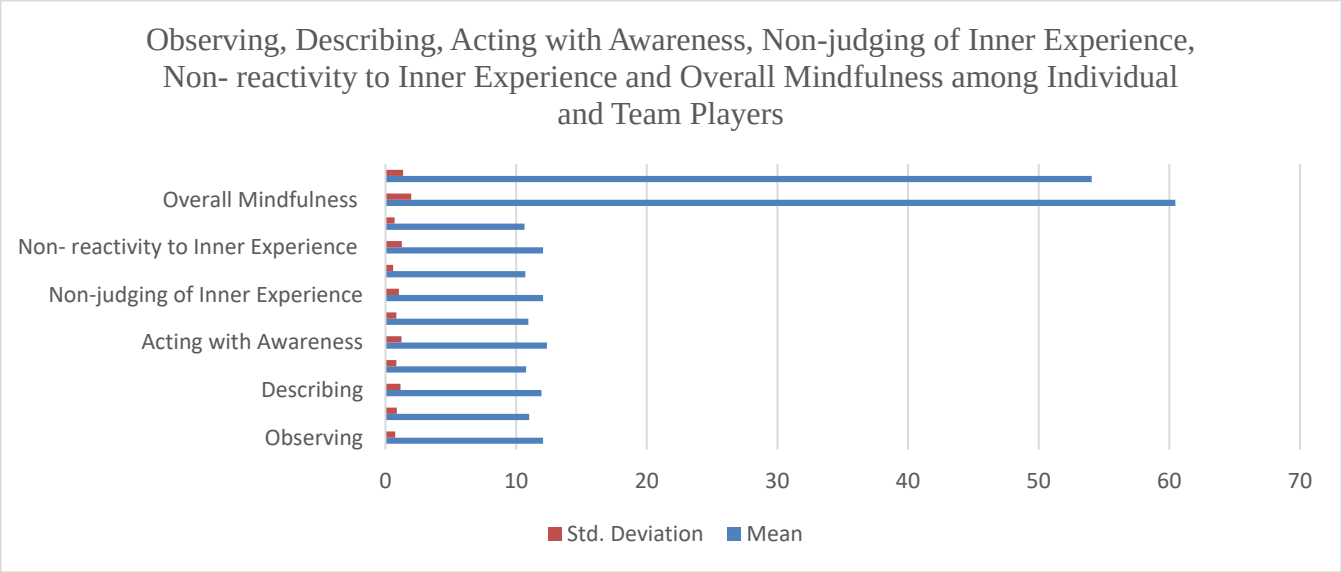

Table 2: Independent 't' test of the Responses on Observing, Describing, Acting with Awareness, Non-judging of Inner Experience, Non-activity to Inner Experience, and Overall Mindfulness of Individual and Team Players.

		Levene's test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Observing	**Equal variances assumed**	.868	.358	3.816	32	.001	1.058	.277	.493	1.624
	Equal variances not Assumed			3.816	31.33	.001	1.058	.277	.493	1.624
Describing	**Equal variances assumed**	.933	.341	3.430	32	.002	1.176	.343	.477	1.875
	Equal variances not Assumed			3.430	29.21	.002	1.176	.343	.475	1.877
Acting with Awareness	**Equal variances assumed**	2.876	.100	3.946	32	.000	1.411	.357	.682	2.140
	Equal variances not Assumed			3.946	28.11	.000	1.411	.357	.678	2.144
Non-judging of Inner Experience	**Equal variances assumed**	2.788	.105	4.707	32	.000	1.352	.287	.767	1.938
	Equal variances not Assumed			4.707	25.43	.000	1.352	.287	.761	1.944
Non- Non-reactivity to Inner Experience	**Equal variances assumed**	1.920	.175	4.064	32	.000	1.411	.347	.704	2.119
	Equal variances not Assumed			4.064	25.19	.000	1.411	.347	.696	2.126
Overall Mindfulness	**Equal variances assumed**	1.317	.260	11.074	32	.000	6.411	.578	5.232	7.591
	Equal variances not Assumed			11.07	28.23	.000	6.411	.578	5.226	7.597

Table 2 presents the results of Levene's test for equality of variances and t-tests for equality of means for the mindfulness sub-scales and overall mindfulness between individual and team players. Levene's test indicates that the assumption of equal variances holds for all sub-scales and overall mindfulness, as the significance values (p-values) for the F-tests are above 0.05, except for the *Acting with Awareness and Non-judging of Inner Experience* sub-scales, where the significance values are slightly lower but still above 0.05. The t-tests show significant differences between individual and team players for all sub-scales and overall mindfulness, with p-values less than 0.01 across the board. For the *Observing* sub-scale, the mean difference between the groups is 1.058 ($p = .001$), with a confidence interval of 0.493 to 1.624. Similarly, for the *Describing* sub-scale, the mean difference is 1.176 ($p = .002$), with a confidence interval of 0.477 to 1.875. The *Acting with Awareness* sub-scale shows a larger mean difference of 1.411 ($p < .001$), with a confidence interval of 0.682 to 2.140. The *Non-judging of Inner Experience* sub-scale also has a significant mean difference of 1.352 ($p < .001$), and the *Non-reactivity to Inner Experience* sub-scale shows a mean difference of 1.411 ($p < .001$). Finally, for overall mindfulness, the mean difference between individual and team players is the largest at 6.411 ($p < .001$), with a confidence interval ranging from 5.232 to 7.591. These results suggest that individual players have better mindfulness levels than team players across all mindfulness sub-scales and overall mindfulness.

4. DISCUSSION

The present study aimed to explore and compare mindfulness levels among athletes participating in individual and team sports. The results reveal significant differences in mindfulness across all sub-scales and overall mindfulness, with individual sport athletes consistently demonstrating higher levels of mindfulness compared to their team sport counterparts. Individual sport athletes scored significantly higher on the Observing and Describing sub-scales of mindfulness. This finding aligns with previous research suggesting that individual sport athletes may develop a heightened awareness of their internal states and external environment due to the solitary nature of their training and competition (Birrer *et al.,* 2012). The ability to observe and describe one's experiences is crucial in individual sports, where athletes must rely on self-feedback and introspection to improve performance (Röthlin *et al.,* 2016). The most substantial difference between individual and team sport athletes was observed in the Acting with Awareness sub-scale. This result supports the notion that individual sport athletes may cultivate a stronger connection between their thoughts, actions, and performance outcomes (Sappington & Longshore, 2015). The solitary nature of individual sports may necessitate a higher degree of self-regulation and present-moment awareness, as athletes cannot rely on teammates to compensate for lapses in concentration or execution (Josefsson *et al.,* 2017). Individual sport athletes also demonstrated significantly higher scores in Non-judging and Non-reactivity to Inner Experience. These findings suggest that individual sport athletes may develop more adaptive cognitive strategies for managing internal experiences, such as thoughts and emotions, during performance (Kaufman *et al.,* 2009). The ability to maintain a non-judgmental stance and respond rather than react to internal experiences is particularly crucial in individual sports, where athletes bear sole responsibility for their performance outcomes (Gardner & Moore, 2012). The substantial difference in overall mindfulness scores between individual and team sport athletes (mean difference of 6.411) underscores the potential influence of sport type on mindfulness development. This finding is consistent with previous research indicating that the demands and characteristics of individual sports may naturally foster mindfulness-like qualities (Bernier *et al.,* 2009).

5. CONCLUSION

This study provides compelling evidence for significant differences in mindfulness levels between individual and team sport athletes. These findings contribute to our understanding of the relationship between sport type and mindfulness, and highlight the importance of considering sport-specific factors in mindfulness research and interventions within athletic contexts.

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