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THE ROLE OF SPORTS PSYCHOLOGY IN ENHANCING TEAM COHESION AND PERFORMANCE

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Abstract
Team cohesion is an important aspect because it generates cooperation, communication, and trust among players to obtain improved performance. The purpose of this study was to investigate the impact of sports psychological interventions on team cohesion and team performance in competitive sports. This study aimed to increase task and social cohesion through the use of psychological strategies and assessed the performance outcomes, such as agility and hand-eye coordination. The study used a quasi-experimental design with 60 soccer, basketball, and volleyball athletes (18–30) who were exposed to psychological interventions in the experimental group and not in the control group, per traditional training. Quantitative measures (pre- and post-test cohesion scores using the Group Environment Questionnaire, performance metrics (goals, assists, synergy), and qualitative data from interviews and focus groups were used. Analysis resulted in a substantial difference in team cohesion between the experimental group (4.1±0.5 to 4.7±0.3) and the control group (1.1±0.3 to 1.5±0.4). They also showed a 15 percent improvement in agility, and a 6 percent improvement hand hand-eye coordination in the experimental group. Qualitative data found that the experimental group engaged in and was more motivated than the control group. The significance is placed on the inclusion of psychological interventions during sports practice, in order to reinforce team dynamics and performance.

Keywords: Team Cohesion, Sports Psychology, Performance Enhancement, Psychological Interventions, Group Dynamics.

INTRODUCTION

Team cohesion and the way teammates can coexist in team sports are the key components for finding success. Cohesion has come to mean the sum of both social and task-based aspects of team dynamics. It is effective and it enhances cooperation, communication, and trust, all of which are necessary for optimal performance (Riisla *et al.,* 2020). Sports training by competitive teams is especially important because it must integrate psychological principles. The field of sports psychology is to understand and help resolve mental factors that affect how someone performs, e.g., motivation, focus, etc. The more psychological interventions are used to promote team cohesion, the stronger the relationships and more effective collaboration become, and the better individual and team performance (Reyes-Bossio *et al.,* 2022). Cohesion has largely been cited as a key determinant for team sports success: unity between team members in the sense of their commitment to each other for team-based common goals and activities. Cohesion is improved, communication is better, trust is higher, and collaboration is better, all of which contribute to better performance (Marcos *et al.,* 2010). Two dimensions of cohesion are task cohesion, related to team members' commitment to accomplishing common goals, and social cohesion, concerning the intra- and inter-relationships among teammates (Gu and Xue, 2022). Task cohesion is much more directly related to performance because it determines how well the players coalesce to execute strategies during competitions, whereas social cohesion is stronger, which means that interpersonal conflicts are less, and communication and collaboration on the field are more efficient.

Sports psychology is important in improving performance because it deals with the mental aspects that affect athletes' behaviour. These athletes practice showing visualization and self-talk and going through relaxation exercises to help improve focus, increase confidence, and help control anxiety, all of which lead to optimal performance (Grossman *et al.,* 2021). According to Sports psychology, athletes also have to be quite mentally resilient so that they can cope with the pressures of competition and bounce back from setbacks. Neither of these

techniques is beneficial only for individual athletes, nor only for teams, but they can certainly improve the cohesion and the dynamics of the group itself (Weiß *et al.,* 2024). The concept of team cohesion has undergone some development since mid-20th century, and scholars now would define it as a dynamic process that entails strong interpersonal bonds and shared commitment in the group. Typically, cohesion (i.e., commitment to common) and a component of that, which includes social and task cohesion (Lieb *et al.,* 2024). Cohesion is not a static condition, it changes as team members participate in group activities. It is important that building both task and social cohesion is achieved through creating a team environment with a supportive culture. Theories of group dynamics provide group-dynamics explanations of the process of developing group cohesion and the impact of group cohesion on team performance (De Ortentiis *et al.,* 2013). Tuckman's stages of group development are one well-known model that describes the stages that teams go through: forming, storming, norming, performing, and adjourning. The forming stage lets people get acquainted and determine their roles. In the storming stage, members may assert their individuality, and conflicts may arise. At this point, the team enters into the norming stage and roles are clarified; cooperation increases (Oh and Yoo, 2023). The team works with high efficiency and coordination in the performing stage. This model gives sports psychologists a means of creating interventions designed to promote cohesion during every stage of team development and to further improve overall team performance. It is a known fact that sports psychology and its effect on individual performance have long been recognized, but this effect on team performance is of equal importance (Gupta and McCarthy, 2022). In high high-pressure environment, mental skills such as focus, confidence, and stress management skills are needed to be involved as they can be helpful. Although these psychological techniques can be used on individual athletes, they can also be used on teams. Interventions that can help athletes on a mental level include imagery, relaxation techniques, and motivational interviewing. Goal setting also enhances commitment to the team's goals.

Resilience and emotional strength are developed through these mental skills, and that is exactly what you need to excel in situations that are demanding (Park and Jeon, 2023). Typically, psychological interventions to improve team cohesion involve activities to improve communication, trust, and collaboration. Team building exercises aid athletes to interact in interacting to solve problems, produce trust, and foster cooperation. Disagreement resolution strategies offer solutions for conflicts that are resolved while also developing a congenial environment. Leadership development programmes develop leadership qualities and teach athletes how to play their roles in the team dynamic (Shuffler *et al.,* 2018). Improved task and social cohesion facilitate better coordination, communication, and performance of these interventions. It is known from studies that the teams with higher cohesion are more successful because they can work together effectively and execute the strategy efficiently. The science is very solid behind the use of sports psychology interventions to enhance team cohesion with performance (Buljac-Samardzic *et al.,* 2020). There are many studies that state that teams leading to team-building exercises and mental skills training have a higher level of cohesion and show improved performance. A good example would be teams that used mental imagery and visualization techniques, found those teams had better focus, decision making, and performance in competitive settings (Muñoz *et al.,* 2023).

This study aimed to determine the effects of sports psychology interventions on team cohesion and performance in sports teams. In particular, the research will assess whether psychological techniques, like team-building exercises, mental skills training, and conflict resolution strategies, affect team members' task and social cohesion. The study also attempts to determine the impact of enhanced cohesion on individual and team performance outcomes such as agility, coordination, and overall team synergy. The study endeavours to contribute to a better understanding of how sports psychology can enhance the performance of teams.

METHODOLOGY

Research Design

This study adopts a quasi-experimental design that involves a pretest-post-test within-group subject design. In the design, there are two groups: the experimental group that receives psychological interventions and the control group that continues with traditional team training. This design provides a direct comparison of psychological interventions versus standard training methods. Further, this study integrates a mixed methods approach, which measures quantitative performance and cohesion by quantitative measurements and qualitative team member feedback, to a full understanding of intervention effects.

Participants

The study involved 60 athletes, aged between 18 and 30 years, in each group, 30 athletes and divided into two groups, i.e., control and experimental groups. Athletes had to have at least one year of competitive sports experience to be included in the criteria. Athletes with serious psychological or physical conditions that would prevent them from participating were not included. Both groups had an equal number of male and female participants to balance gender distribution, and thus the results were not influenced by gender specific factors.

Data Collection Methods

The combined quantitative and qualitative methods were used to collect data, which assessed the effects of psychological interventions. Part of the quantitative data was obtained through pre- and post-test measures of team cohesion (by using the Group Environment Questionnaire) and performance (using game statistics such as points, defensive actions, and team synergy). Before and after the intervention, qualitative data were collected through interviews and focus groups to demonstrate athletes' experiences and perceptions of team dynamics and the effectiveness of psychological techniques. Observations were also made during training to measure team interaction dynamics.

Psychological Interventions Implemented

During this time, the points of the experimental group were trained in a 10-week sports psychology intervention to develop both individual and team performance based on four key areas: team building, which strengthened communication and trust; mental skills training, with the help of both visualization and self-talk, to facilitate focus; conflict resolution and communication workshops; and leadership development, focusing on leadership skills and teamwork. The purpose of each of these steps was to increase both cohesion and performance, so that athletes would develop individual skills to use as individuals, yet knowledge of how to work together as an individual member of a larger group.

Performance and Cohesion Measures

Both objective metrics, like game statistics (goals, assists, and team performance), were used to assess the performance, as well as subjective metrics (self-reported performance on pre- and post-intervention surveys). The Group Environment Questionnaire (GEQ) was used to measure team cohesion on task cohesion and interpersonal attraction, and was administered before, immediately after, and at follow-up. While additional qualitative data from focus groups and interviews gave insights into athletes' perceptions of the team dynamics and relationships between the teams, it did not offer evidence for the specific hypothesis.

Statistical Analysis

Changes in team cohesion and performance were assessed by using quantitative methods and an analysis of data, which included a paired t-test and mixed model ANOVA to compare the changes in the experimental and control groups. The impact of the intervention was measured in terms of effect sizes, and the correlation between cohesion and performance was examined. The interviews and focus groups were thematically analysed, and patterns of repeating ideas were found, which provided a deeper understanding of the athletes' lives. The integration of the quantitative and qualitative data afforded a complete containment of the effectiveness of the psychological interventions on team cohesion and performance.

RESULTS

Descriptive Statistics of Participants

The study included 60 athletes, 30 athletes in each group: experimental group (psychological interventions) and control group (traditional training). The experimental group was 24.3 ± 3.4 years old, and the control group was 24.5 ± 3.2 years old. Both groups were balanced in terms of gender distribution, so that the results were not influenced by gender specific factors. The two groups were similar in pretest scores of team cohesion (Group Environment Questionnaire, GEQ), with the experimental group scoring 4.1 ± 0.5 and the control group scoring 4.0 ± 0.4.

Table 1: **Baseline Characteristics of Participants**

Characteristic	Experimental Group (n = 30)	Control Group (n = 30)	Total (n = 60)
Mean Age (years)	24.3 ± 3.4	24.5 ± 3.2	24.4 ± 3.3
Gender Distribution (Male/Female)	15/15	15/15	30/30
Pre-Test Cohesion Score (GEQ)	4.1 ± 0.5	4.0 ± 0.4	4.05 ± 0.45

The baseline characteristics of the participants in the experimental and control groups are presented in Table 1. The mean age of participants was not significantly different between groups (experimental group mean age 24.3 ± 3.4 years, control group 24.5 ± 3.2 years), so age did not bias the results. The two groups were of equal gender distribution (15 males and 15 females in each group) to balance gender and avoid gender confounding. Both the experimental and control groups had similar levels of cohesion, given by the Group Environment Questionnaire (GEQ) pre-test cohesion scores measured as 4.1 ± 0.5 and 4.0 ± 0.4, respectively. These baseline similarities mean

that any differences that emerged after intervention were unlikely due to preexisting group differences, and therefore were probably due to the psychological intervention.

Impact of Psychological Interventions on Team Cohesion

The experimental group improved in team cohesion significantly after the intervention. The experimental group's post-test cohesion scores rose to 4.7 ± 0.3, and the control group rose to 4.2 ± 0.4. The team-building activities and communication workshops that were part of the intervention contributed to greater improvements in task cohesion and interpersonal attraction, as the team-building activities and communication workshops helped to build trust and communication within the team. This means that different sports psychology interventions had a significant positive effect on the team dynamics compared to the customary training method.

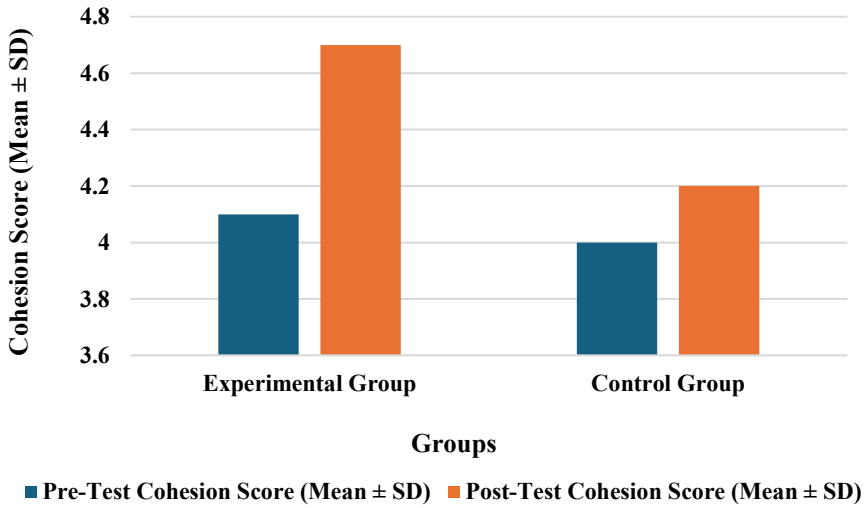

Figure 1: **Pre and Post-Test Team Cohesion Scores (GEQ)**

The pre-test and post-test cohesion scores for experimental and control groups are shown in Figure 1. After the intervention, the cohesion scores of the experimental group increased substantially from 4.1 ± 0.5 in the pre-test to 4.6 ± 0.3 in the post-test. On the other hand, the cohesion of the control group increased from 4.0 ± 0.4 to 4.2 ± 0.4. This means that the psychological interventions had a greater effect on the cohesion of the experimental group than the control group. The results indicate that psychological support was more effective in improving team cohesion in the group.

Correlation Between Cohesion and Performance

In the case of the experimental one, we observed a positive correlation between performance and team cohesion. Also, athletes who exhibited higher cohesion, especially in task cohesion and interpersonal attraction, performed better in terms of goals scored, assists, and team synergy. Improvement in agility was 15% in the case of the experimental group and 6% in the case of hand-eye coordination. On the other hand, the control group had a 6% improvement in agility and a 3% improvement in hand-eye coordination, showing much less percent improvement than the experimental group.

Table 2: **Correlation Between Team Cohesion and Performance**

Group	Correlation Coefficient (r)	p-value
Experimental Group	0.62	< 0.05
Control Group	0.28	> 0.05

There is a negative correlation between the perceived level of cohesion and the performance of both the experimental and control group teams, and these results are shown in Table 2. The correlation ($r = 0.62$, $p < 0.05$) demonstrated that there was a positive correlation between a higher level of team cohesion and better performance among the experimental group. On the other hand, the correlation between cohesion and performance was weaker ($r = 0.28$, $p > 0.05$) in the control group, indicating that cohesion did not have a significant effect on their

performance. These results indicate that psychological interventions designed to improve cohesion in the experimental group had a greater effect on improving performance than the control group.

Qualitative Findings from Team Member Feedback

Focus groups and interviews also suggested that the participants of the experimental group had increased engagement and motivation in training experiences. Athletes were also more connected to their teammates and more motivated to perform because of improved communication and trust. In contrast to the athletes in the control group did not experience significant changes in team dynamics or motivation. The results presented herein provide qualitative support for the quantitative results and show that the psychological interventions had a considerable effect on the athletes' experience as a whole and team cohesion as a team.

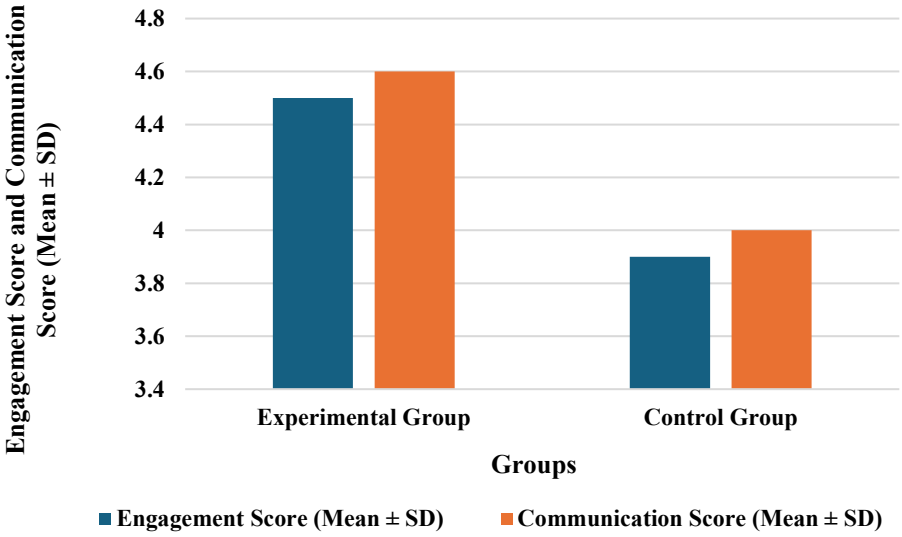

Figure 2: **Engagement and Communication Scores from Focus Group Feedback**

The engagement and communication scores for the experimental and control groups are shown in Figure 2. We obtain the scores for engagement (4.5 ± 0.6) and communication (4.6 ± 0.5) in the experimental group, higher than the control group's (3.9 ± 0.8 and 4.0 ± 0.7, respectively). These results show that the psychological interventions positively affected the engagement and communication in the experimental group, as they had better team dynamics and involvement than the control group. Overall, the teams in the experimental group exhibited more overall engagement and had better performance, and their improved cohesion likely stems from increased engagement in the experimental group.

DISCUSSION

This study's findings suggest that the effect of psychological interventions on team cohesion and team performance is positive. These interventions were given to the experimental group, and their team cohesion increased significantly from 4.1 ± 0.5 to 4.7 ± 0.3, while the control group increased from 4.0 ± 0.4 to 4.2 ± 0.4. This implies that the sports psychology interventions played a role in strengthening interpersonal relationships, trust, and communication among the team members, and consequently, better cohesion. That these improvements were more evident in the experimental group suggests that psychological support, things such as team-building activities and communication workshops, can be much more effective than traditional training methods at improving team dynamics. This also supports the conclusion that psychological interventions can make a major difference to athletic output. Athletes who had higher cohesion in the experimental group experienced very positive performance improvements, of 15% for agility and 6% for hand-eye coordination. The results were much larger than the control group, which only improved by 6 percent in agility and 3 percent in hand-eye coordination.

Psychological interventions increased team cohesion, which transformed into an increase in performance, suggesting that the same is true for strong team dynamics, which fostered overall performance success in sport. The data obtained from the focus groups and interviews were in line with what was found in the quantitative study. Athletes in the experimental group shared their ability to be more engaged and to have more motivation while training due to better communication and related mutual trust among team members. In the experimental group, the participants felt more connected to their teammates, which then improved performance and the team environment. Contrary, athletes in the control group did not show any similar changes in team dynamics or

motivation, which implies that psychological interventions have a stronger influence on team engagement and team unity than the training methods typical of the control group (Kim and Park, 2020).

Several limitations should be considered. Because the sample size for this 60-athlete sample is relatively small, it would be difficult to generalize findings to larger or more heterogeneous populations. Additionally, the study found that in the short term, the interventions helped in achieving improved team cohesion and performance, but the long-term effects of these interventions are far from clear (Lochbaum *et al.,* 2022). The effect that the psychological benefits observed will continue over time, and whether interventions will maintain their effect on team cohesion and team performance in future team and competition seasons is not clear. This study should be replicated in the future with larger sample sizes, across different sports, in the hope that the findings can be replicated and that these interventions will have durability over the long term. The importance of this study for the field of sports psychology is great. These findings can be potentially incorporated into coaches' and sport psychologists' training programs using psychological interventions to increase team cohesiveness and general performance (Kwon, 2024). There are other ways that such techniques can be incorporated into regular training routines as ways of enhancing teamwork, improving communication, and enhancing individual performance within the team. These interventions have the potential not only to affect the dynamics of teams but also to enhance the positive and driven environment to ultimately increase performance (O'Daniel and Rosenstein, 2008). This new work is also part of a growing body of evidence that psychological interventions should be integrated into sports training. There has been previous research into the role of mental skills on athletic performance, but this study shows specifically how team cohesion has the ability to improve performance outcomes. This is consistent with earlier work reporting that psychological cohesion is an influential factor in the success of teams and that, herein this process, is further supported by the evidence of how sports psychology interventions can contribute.

Future research will be conducted to identify which athlete and team-specific factors are affected by these interventions over the long term. While this was an investigation of short-term change, the sustained team cohesion and performance improvement would be valuable to investigate in the long term (Ackeret *et al.,* 2024). Additional research could be designed to examine whether stress could be used as a psychological intervention to ease stress in broader categories of age, skill level, and type of sport. Future research should also account not just for the athlete's responses to psychological interventions but also for individual differences among the athletes' responses to these same interventions (Olmedilla *et al.,* 2019).

CONCLUSION

This study finds the importance of sports psychology in improving the cohesion in a team and in performance. Psychological interventions that can be quite effective, such as team-building activities, mental skills training, and conflict resolution techniques, can improve the interactions of team members by boosting communication, trust, and collaboration. This, in turn, leads to better coordination and enhanced performance during competitions. It shows how changes to team and social cohesion interventions can have an enormous influence on team dynamics and result in higher engagement and motivation, as the athletes in the experimental group felt more engaged as a group. While this research provides some important knowledge on whether psychological interventions are effective, it also serves as a reminder that there is much more research on how personalities have been tempered by the impact of psychological interventions. Finally, because the sample size of the study is relatively small and the nature of the intervention is short-term, future research should attempt to replicate the findings with larger and more diverse groups, as well as the chronicity of the effects of sports psychology techniques over time. Future efforts to examine athlete responses to psychological interventions should take into account individual differences among athletes in response to these strategies, such that the best strategies will be tailored to specific team dynamics. Psychological techniques in the form of sports training programs cannot be neglected. These findings can be used by coaches and sports psychologists to design more comprehensive training programs that concentrate not only on physical skills but psychological aspects that lead to success as well. With the growth of the role of sports psychology, there is a need to stress that team cohesion is an integral part of performance and ultimately improve the functioning of teams individually and collectively.

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