

# EFFECT OF A TEN DAY OUTDOOR ADVENTURE EDUCATION PROGRAMME ON TEAM COHESION: A CASE OF PARTICIPANTS AT KENYA SCHOOL OF ADVENTURE AND LEADERSHIP

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## ABSTRACT

*Outdoor adventure education (OAE) programmes are instrumental in enhancing collaboration and participation levels among team members. This study determined the effect of an outdoor adventure education programme on team cohesion of the Kenya Air Force (KAF) and the Kenya Navy (KN) personnel in a training programme at Kenya School of Adventure and Leadership. The study adopted a quasi-experimental design to obtain information on the effect of an outdoor adventure education programme on team cohesion. The study was carried out at KESAL, Mt. Kenya. Data was collected from (n = 118) KN and KAF officers using a Group Environment Questionnaire (GEQ). Findings revealed that the outdoor adventure education programme had a higher effect on the team cohesion of the KAF than the KN officers. The findings revealed that the OAE programme had effect on the task cohesion of the KAF and KN based on their gender and experience (Sig. = .033 and .001 respectively). When it comes social cohesion, it was established that the OAE programme had significant effect on the social cohesion of the KAF and KN officers based on their gender and experience (Sig. = .027 and .019 respectively). Therefore, it was concluded that significant difference in the effect of an outdoor adventure education programme on the team cohesion existed based on gender and experience. Based on these findings and conclusions, it was recommended that the Department of Defence should come up with strategic and group-tailored measures that will be appropriate in addressing issues of task and social cohesion in their service delivery, such as disaster management training programmes. Future studies should investigate the effect of outdoor adventure programme in other populations and institutions like schools, universities and business companies.*

**Keywords:** Team Cohesion, Task Cohesion, Social Cohesion, Outdoor Adventure Education, KESAL

## INTRODUCTION

It is imperative for all workers to share a common goal and promote interdependence within the work environment and this is based on the value of a cohesive work environment, especially when it comes to increasing the likelihood of employee satisfaction. Rodríguez-Sánchez, Devloo, Rico, Salanova and Anseel (2017) define cohesion as the action of people coming together and forming united teams while pursuing common goals. Therefore, a team is considered cohesive when members of a team have bonds connecting each other and the whole team. Task cohesion refers to the extent to which team members remain united to attain shared performance-related goals while social cohesion is centred on the level of interaction between team members (Eys, Carron, Bray, & Brawley, 2007). Through outdoor adventure education (OAE), groups can develop stronger cohesion and bonds in the bid to attain organizational goals (Priest, 1995). The training normally involves participants working with facilitators through activities while assisting them to transfer the skills and

knowledge learned in adventure to a working milieu and encouraging them to periodically reflect on their experiences. Corporate adventure programmes are efficient means for group development. Just as affirmed by Ndung'u (2015) and Seaman (2008), outdoor adventure education plays a significant role in enhancing social competence and team working skills.

Outdoor education programmes improve output by improving self-awareness and self-sufficiency; building trust, and creating a shared history for people (Payne, 2000). These improvements are then believed to advance interpersonal communication, work satisfaction, morale, team-commitment and cohesiveness; which leads to better conflict management, better turnover, and lower absenteeism rate (Boyle, 2003; Priest, 1995; Williams, Graham & Baker, 2003). Group cohesion, which manifests as: task cohesion and social cohesion, is a crucial aspect for security forces anywhere in the world for it helps strengthen teamwork (McBride, 2006).

Cohesion has long been a central tenet in military writings, and this is a position that is supported by MacCoun and Hix (2010) who took time to evaluate the contributions of earlier scholars towards social cohesion in the military. MacCoun and Hix believe that in the years immediately after World War II, most of the scholars indicated that social cohesion was essential to military effectiveness. The insights in their conclusions were based on the data collected from American and German military men and women.

In Kenya, the Kenya Air Force (KAF) and the Kenya Navy (KN) are tasked with protecting the country against external attacks from the air and water respectively (Kenyan Constitution, 2010). Defence forces need to work together in synergy and as cohesively bonded teams to ensure that they successfully achieve their goals and objectives (Daily Nation, 2014). Success can only be realized if the factions not only work as a team in their specific factions or units, but also as a whole cohesive team under the name of the Kenya Defence Forces (KDF). Kenya has embraced the use of outdoor adventure education programmes in KDF training, owing to the Government's commitment by starting and sustaining its own adventure and leadership training school, Kenya School of Adventure and Leadership (KESAL), under the Ministry of Interior and Coordination of National Government. This study was set to assess the effect of an outdoor adventure education programme on team cohesion of the KAF and the KN personnel in a training programme at KESAL. The study also sought to find out the effect of an outdoor adventure education programme on task cohesion and social cohesion of KAF and KN officers based on their gender and work experience.

## **METHODOLOGY**

A quasi-experimental design was used in assessing the effect of the outdoor adventure education programme on team cohesion of KAF and KN participants in a 10 day training programme. As a developmental programme, the goal was to facilitate personal growth of participants with the focus on how they see, feel, comprehend, and conduct themselves and was supervised by field instructors. The programme activities engaged in, included hiking and backpacking, essential outdoor skills activities such as maps and compass, first aid, minimum impact camping, shelter construction and outdoor cooking, rock climbing, jungle navigation, rope courses, initiative tests and group dynamic exercises. In order to assess the effect of an intervention, a pre- and post-test approach was integrated in the study, and it involved three phases: pre-test, participation in OAE programme, and post-test.

The dependent variables were task and social cohesion while the independent variables were the outdoor adventure education programme, gender and work experience. The study took place at Mt. Kenya, where KESAL is located. KESAL is a public sector training institution established in 1990 offering experiential outdoor adventure education programmes to Government and private sector institutions.

Ethical approval was obtained from Kenyatta University Ethics Review Committee (KUERC), Application No: PKU/618/1702, and a research permit obtained from National Commission for Science, Technology and Innovation (NACOSTI), Ref. No. NACOSTI/P/17/73298/15530. Before collecting data, the researchers sought the approval of KESAL and then sought approval from the relevant authorities in the KAF and the KN. After getting the go-ahead from all the relevant authorities, the researchers sought consent from the participants. Then the questionnaires were administered at KESAL before (pre-test) and after (post-test) the outdoor education programme.

### **Population, Size and Sampling Technique**

Organized groups from both KAF and KN were targeted and engaged in a 10-day outdoor adventure education programme. A total of 120 officers signed for the OAE programme but only 118 officers took part in the pre-test, actual training, and post-test exercises. KESAL can only accommodate a limited number of participants, which defines the adopted sample size. The study adopted the census method, where data was collected from each unit of the population relating to the question of the study.

### **Research Instrument and Data Analysis**

A demographic and Group Environment Questionnaire (GEQ) by Carron, Brawley, & Widmeyer (2002) was used as the instrument for collecting data. The GEQ had a total of 19 comprehensive closed-ended questions which estimated team cohesion in terms of group integration and individual attraction. The paired/dependent sample t-test was conducted to test the hypotheses on the effect of outdoor adventure education outcomes. Means from the same dependent variable were compared, drawn from the pre-test and post-test means related to participants' gender. A one-way ANOVA analysis, using post hoc tests, was also conducted to test the differences in recorded mean scores with regard to work experience for statistical significance. All the hypotheses were tested at a significance level of  $p > .05$ .

## **RESULTS**

### **Respondents Demographics**

Data was gathered from a total of 118 KN and KAF officers. There were more male officers (84.6%) than females 17 (15.1%). In total, the KAF officers made up 56.67% of the sample while the rest (43.33) were officers from the KN. The majority (83.2%) ranged between 26-35 years while those between 36-45 years represented 16% of the whole figure. Those below the age of 25 years were marked at 0.1%. Majority (56.4%) of the respondents had been in the military for 6 to 10 years, while 37% of the total respondent stated that they had served in their different posts within the military for the last 11 to 20 years. On the other hand, 4.3% and 1.7% indicated that they had been in service for less than 5 year and more than 21 years respectively.

### **Team Cohesion and OAE Programme**

The findings of the study (Table 1) show a significant difference in the task and social cohesion scores for KAF with  $t(68) = 3.04825$ ,  $p = 0.0033$  and  $t(68) = -2.21105$ ,  $p = 0.0304$  respectively. There is also a significant difference in the task and social scores for KN with  $t(48) = 3.17001$ ,  $p = 0.0027$  and  $t(48) = -2.03563$ ,  $p = 0.0473$  respectively.

**Table 1: Cohesion scores in the KAF and the KN before and after the programme**

Pre- and Post-test Scores	MD	SD	T	df	Sig.	Effect Size
KAF Task Cohesion	0.10	0.273	3.048	68	.0033	0.033
KAF Social Cohesion	-0.13	0.488	-2.211	68	.0304	0.055
KN Task Cohesion	0.17	0.375	3.170	48	.0027	0.067
KN Social Cohesion	-0.07	0.241	-2.036	48	.0473	0.027

\* Statistically significant  $p < 0.05$

These results suggest that the participants' perception of their task and social cohesion were significant after the outdoor adventure education programme. Therefore, the corresponding hypothesis was rejected as there was a significant difference in the effect of an outdoor adventure education programme on the participants' team cohesion. Overall, the effect sizes from the pre-test to the post-test were small (less than 0.2) for both the KAF and KN personnel. This indicates that the OAE programme had a positive impact on the participants' task and social cohesion.

#### **Task Cohesion and social cohesion and OAE programme based on participants' gender**

The findings in table 2 shows a statistically significant difference between the males' task cohesion scores before and after the outdoor adventure education programme,  $t(100) = 2.3451$ ,  $p = .021$ . The findings also recorded a statistically significant difference between the females' task cohesion scores before and after the programme,  $t(16) = 2.3334$ ,  $p = .033$ . The effect sizes from the pre-test to the post-test task cohesion scores were small (less than 0.2) for both the male and female officers.

**Table 2: Task and social cohesion and OAE programme based on participants' gender**

Pre- and Pot-test Scores	MD	SD	t	df	Sig.	Effect Size
Males Task Cohesion	0.19	0.814	2.345	100	.021	0.047
Females Task Cohesion	0.26	0.459	2.333	16	.033	0.055
Males Social Cohesion	-0.167	0.785	-2.138	100	.035	-0.0407
Females Social Cohesion	-0.012	0.020	-2.434	16	.027	-0.0039

\* Statistically significant  $p < 0.05$

As per Table 2, the results showed a statistically significant difference between the males' social cohesion scores before and after the OAE programme,  $t(100) = -2.138$ ,  $p = .035$ . There was also significant difference between the females' social cohesion scores before and after the OAE programme,  $t(16) = -2.434$ ,  $p = .027$ . The effect sizes from the pre-test to the post-test social cohesion scores were small (less than 0.2) for both the male and female officers.

Consequently, the corresponding null hypothesis was rejected as there was notable effect of the outdoor adventure education programme on the participants' task cohesion and social cohesion based on their gender. This indicates that the OAE programme had a positive impact on the participants' social cohesion and task cohesion based on their gender.

### Task Cohesion and OAE Programme based on Work Experience

The results in Table 3 showed a significant effect of OAE programme on task cohesion at the  $p < .05$  level for participants' work experience with  $F(15,102) = 1.1436, p = .001$ . Thus, the corresponding hypothesis was rejected as the OAE programme recorded a significant effect on participants' task cohesion based on their work experience.

**Table 3: Post-test task cohesion and social cohesion scores as per work experience**

	Sum of				
	Squares	df	MS	F	Sig.
Task cohesion Between Groups	67.8645	15	4.5243	1.1436	.001
Task cohesion Within Groups	403.5253	102	3.9561		
<b>Total</b>	<b>47139.13</b>	<b>117</b>			
Social cohesion Between Groups	39.114	7	5.588	1.729	.019
Social cohesion Within Groups	355.408	110	3.231		
<b>Total</b>	<b>394.522</b>	<b>117</b>			

### DISCUSSION

The study results indicated that the OAE programme had a significant effect on the overall team cohesion, including task and social cohesion, of Kenya Air Force and Kenya Navy officers. In every dynamic workplace, the desire to work together as a team is often associated with the nature of work and the changing organizational values, structures, processes and expectations. Illeris (2010) believes that a dynamic workplace is characterized by transformative elements of team formation such as creative freedom, commitment and trust, adaptability, diversity of capability, and communication. This is in line with the goal of developing strong teams which are consistent with the organizational vision and policy. One way of achieving such prospect is by adopting the practicalities of outdoor adventure education, which is characterized by the expeditions or residential wilderness-based experiences.

In this study, the post-programme scores for the social cohesion increased. Ahronson and Cameron (2007) found that high social cohesion and individual task ratings were associated with lower levels of psychological distress. In this study, participants required social cohesion to keep motivated to finish the rigorous course of a team.

The relationship between team cohesion and performance is highly defined in situations or tasks that require relatively high levels of performance monitoring, coordination, and communication among team members. In this study, particularly in improving group performance, task cohesion was highly required. This is a position that was sustained by MacCoun (1996) upon reviewing civilian and military of team performance and cohesion. One has to understand the group dynamics of a team, especially what brings group members together and sustains them through a certain task or situation. This was eminent with both the KAF and KN officers when working together to complete a task.

The study also found out that the OAE programme had a significant effect on task and social cohesion based on the participants' gender and work experience. Shellman and Ewert (2010) Assert that males tend to value OAE activities related to dominance or power such as jungle navigation exercise, high rope courses and rock climbing whereas females valued those related to trust activities such as initiative tests and group dynamic exercises. Such a perspective is partly associated with sex-role stereotypes as females and males may react to

training programmes in different ways. For instance, while a male participant's triumph is more likely to be ascribed to his abilities; both female and male participants are more likely to credit a female's accomplishment to special efforts or luck. As supported by Goldenberg, McAvoy and Klenosky (2005), these perceptions have a tendency of producing varying levels of self-efficacy in females and males. Such dissimilarities in motivation are believed to influence participants' behavior and in the end, programme outcomes.

In terms of work experience, a team that has been together for long and that is highly cohesive has a tendency of performing much better than teams with shorter work experience (Banwo, Du and Onokala, 2015). This shows that the organizational tenure of employees has an effect on the overall performance of teams.

These findings serve as an evaluation of adventure and teambuilding courses and their effect on team cohesion. Furthermore, researchers in various Kenyan institutions who are interested in outdoor adventure activities and team building and team cohesion find this study useful, particularly in policy formulation and training programme management. Since outdoor adventure education is characterized by competing tasks primarily associated with intrapersonal and interpersonal relationships, the findings provide insights into the practices that impact on team cohesion.

## **CONCLUSIONS**

The findings of this study have shown a consistent significant difference in the effect of an outdoor adventure education programme on the team cohesion. This is also supported by the effect of OAE programme on task and social cohesions based on participants' gender and work experience. The results highlight on the significance of policy formulation with regard to increasing the accessibility and efficiency of outdoor adventure education by the Kenya Defense Forces. It is also recommended that future studies should investigate the effect of outdoor adventure programme in other populations and institutions like schools, universities and business companies. Such studies should also consider longer or shorter time durations in establishing whether the OAE programmes will have an impact on course participants' team cohesion.

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