

RELATIONSHIP BETWEEN FACILITATORS' LEADERSHIP STYLES AND PARTICIPANTS' STRESS AT UITM SEREMBAN 3 FINAL CAMPUS

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Abstract. Leadership plays an important role in shaping participants' experiences and psychological well-being in outdoor recreational programmes. This study aimed to examine the level of facilitators' leadership effectiveness, the level of participants' stress, and the relationship between facilitators' leadership effectiveness and participants' stress levels during the Final Camp at Seremban 3 Campus. A quantitative research design was employed, involving 109 participants of the Final Camp. Data were collected using a structured questionnaire measuring facilitators' leadership effectiveness and participants' stress levels. Descriptive statistics and inferential analyses were conducted using Jamovi software. The findings revealed that facilitators demonstrated a high level of leadership effectiveness, while participants experienced low to moderate levels of stress during the camp. Pearson's correlation analysis showed a weak and non-significant relationship between facilitators' leadership effectiveness and participants' stress levels. Regression analysis further indicated that facilitators' leadership effectiveness did not significantly predict participants' stress levels. In conclusion, although facilitators were perceived as effective leaders, leadership effectiveness alone did not significantly influence participants' stress levels during the Final Camp. The findings suggest that stress in outdoor recreational programmes is influenced by multiple factors beyond leadership effectiveness. This study provides useful insights for facilitators and programme organizers in enhancing leadership practices and stress management strategies in outdoor camp settings.

Keywords: *leadership style, stress levels, outdoor recreation, final camp, facilitators*

Introduction

This study examines the relationship between leadership styles and psychological well-being in outdoor recreational programmes. Leadership plays an important role in guiding individuals and shaping outcomes in many settings (Bingöl, 2023). In outdoor education and recreation, programmes often aim to develop capable outdoor leaders and provide meaningful learning experiences for participants. Effective leadership in these settings requires technical skills, organizational ability, self-management, sound judgement, decision-making, and strong interpersonal competence. Leadership also involves a complex interaction between the leader and the specific activity context

(Hsiao, 2025; Vigane and Dyrstad, 2022). Stress remains a common and serious issue among students and individuals involved in various activities. University students often experience high stress due to academic demands, financial difficulties, family expectations, and changes in learning environments (Wu et al., 2024). This stress can negatively affect mental and physical health and may lead to insomnia, fatigue, depression, and lower performance. Psychosocial factors such as academic pressure and interpersonal conflict also contribute to student anxiety (Hernawan et al., 2024).

Outdoor recreation and education programmes have become an effective approach to reducing stress. Research shows that contact with nature and participation in outdoor activities can lower anxiety and stress while improving mental and physical health (Chang et al., 2024; Wicks et al., 2022). Natural environments provide multi-sensory experiences that support relaxation, increase happiness, and strengthen resilience to stress. For example, forest travel can reduce pulse rate and blood pressure and improve the mood of university students (Chang et al., 2024). In addition, adults under stress often choose passive outdoor activities, such as enjoying quiet surroundings and fresh air, or active activities, such as jogging and brisk walking, because of their restorative value (Mohd Shobri et al., 2021). The effect of leadership styles on psychological stress and adaptation reflects the close connection between leader behaviour and participant psychological responses (Wu et al., 2024). Therefore, understanding the relationship between a facilitator's leadership style and participant stress levels is essential for planning and conducting outdoor programmes such as "Final Camp Seremban 3." This understanding helps ensure that such programmes not only build important skills but also support the psychological well-being of all participants (Hernawan et al., 2024).

Statement of problem

The central issue in this study arises from the growing recognition that university students experience high and increasing levels of stress worldwide (Chang et al., 2024). In demanding and structured settings such as "Final Camp," the relationship between facilitators and participants becomes especially important. However, the most effective leadership approaches for reducing stress and improving psychological well-being remain unclear, particularly in the context of Malaysian and Southeast Asian university outdoor programmes (Wu et al., 2024). University students commonly experience high levels of stress, anxiety, and depression. This condition often results from the need to balance intensive training, competitive expectations, academic responsibilities, and social or personal relationships. The high level of stress among university students has become a widely recognized social concern (Chang et al., 2024). Anxiety, marked by tension, restlessness, insecurity, and difficulty coping with daily demands, remains a major psychological issue among students (Hernawan et al., 2024). Facilitators play a direct role in shaping participant behaviour and psychological responses. Although previous studies stress the importance of timely and effective action to reduce pressure and create a positive learning environment, limited evidence explains how particular leadership behaviours affect stress outcomes. Some leadership styles, such as autocratic leadership, may produce negative effects, including higher stress levels and greater risk of burnout among participants (Modise, 2024). In contrast, democratic leadership has shown a significant effect in lowering self-perceived stress (Wu et al., 2024). Supportive approaches, including transformational and servant leadership, also help reduce the harmful effects of stressors and improve psychological well-being (Rasak et al., 2024).

Purpose of study

The study aims to examine the influence of different leadership styles, namely democratic, autocratic, and laissez-faire, on participant stress levels in outdoor recreation activities. Although outdoor physical activity in natural settings is widely associated with psychological benefits (Wicks et al., 2022), limited research has examined how leadership style in these settings affects stress. This study addresses that gap by exploring how the behaviour and attitudes of leaders or facilitators in outdoor recreation may shape, mediate, or moderate participants' stress responses. By analysing participants' perceptions and stress outcomes under different leadership styles, the study seeks to identify the approaches that best support psychological well-being and reduce stress in group-based outdoor settings.

Research questions and research objectives

The research questions are include: (1) What is the leadership styles among outdoor recreation participants? (2) What is the stress level among outdoor recreation participants? (3) Is there any impact of leadership styles towards stress levels among outdoor recreation participants? Meanwhile, the research objective are include: (1) To identify the types of leadership styles experienced by facilitators in Final Camp Seremban 3 Campus. (2) To assess the stress levels among participants engaged in Final Camp Seremban 3 Campus. (3) To determine the impact of facilitators' leadership styles and participants' stress levels in Final Camp Seremban 3 Campus.

Research hypotheses

There are two hypotheses, namely:

Ho: There is no impact of facilitators' leadership styles and participants' stress levels in Final Camp Seremban 3 Campus.

H1: There is an impact of facilitators' leadership styles and participants' stress levels in Final Camp Seremban 3 Campus.

Literature review

The effectiveness and lasting value of intensive outdoor programmes such as “Final Camp Seremban 3 Campus” depend largely on two key factors: the facilitator's leadership style and the participants' level of psychological stress. This review examines the literature on the interaction between these factors, with particular attention to how effective leadership can reduce participant stress and improve the overall camp experience and developmental outcomes.

Participants' stress levels in university and outdoor settings

Stress is a common and persistent issue among individuals, especially university students who face many demands in daily life (Wu et al., 2024). Common sources of student stress include academic responsibilities, financial problems, parental expectations, and changes in learning environments. Excessive or prolonged stress can seriously harm physical and mental health. It may lead to insomnia, burnout, depression,

reduced academic performance, and lifestyle-related diseases such as hypertension and diabetes. From a physiological perspective, stress and anxiety may also cause increased blood pressure, sweating, trembling, dizziness, and palpitations (Hernawan et al., 2024). In contrast, participation in outdoor recreational and educational activities has consistently shown positive effects in reducing stress and anxiety (Hernawan et al., 2024; Wicks et al., 2022). Exposure to nature and green spaces is one of the most effective ways to lower stress levels (Chang et al., 2024). Activities such as walking or travelling in natural environments can reduce pulse rate and blood pressure while improving mood among university students (Chang et al., 2024). In addition, campus green spaces allow students to enjoy fresh air, relax, and take walks, which support better mental health and lower stress. Outdoor recreation spaces can also promote mental recovery and improve health after crises (Parkinson et al., 2024).

Facilitators' leadership style

The leader's style of practice is an important factor that shapes participant experiences and stress levels in outdoor and sports programmes. Leadership refers to the process through which one individual guides others toward shared goals, and the leader's approach can strongly influence team members (Narang et al., 2024). Different leadership styles produce different effects on participant well-being and performance. Democratic leadership, which is athlete-centred and team-oriented, encourages active involvement in decision-making. Research has shown a strong negative relationship between democratic leadership and self-rated stress among athletes, which suggests that this style can reduce stress effectively. This style also appears more common than authoritarian leadership (Wu et al., 2024). Transformational leadership builds strong emotional connection and shared commitment among followers. It motivates individuals to exceed expectations and strengthens group cohesion through cooperation and solidarity toward common goals (Khairul Anuar and Mohd Kassim, 2024). Adaptive leadership involves the whole group in solving complex problems that extend beyond technical issues, and it is especially valuable in managing uncertainty and stress in demanding situations (Matos et al., 2024). In contrast, autocratic leadership, which relies on top-down decisions and strict control, can suppress creativity, lower morale, and increase participant stress and burnout (Modise, 2024).

Theoretical framework

The conceptual framework of this study combines several leadership theories to explain the relationship between facilitators' leadership styles and participant stress levels. The independent variable is facilitator leadership style, which includes transformational, democratic, adaptive, transactional, and autocratic approaches (Khairul Anuar and Mohd Kassim, 2024; Matos et al., 2024; Modise, 2024; Wu et al., 2024). The dependent variable is participant stress level, which consists of perceived stress, anxiety, and coping response. Democratic, transformational, and adaptive leadership styles are expected to lower participant stress by encouraging autonomy, offering motivational support, strengthening problem-solving, and creating an inclusive and cooperative learning environment (Hsiao, 2025; Khairul Anuar and Mohd Kassim, 2024; Matos et al., 2024; Wu et al., 2024). In contrast, a strongly autocratic leadership style may increase participant stress because it restricts participant input, limits initiative, and creates greater pressure (Modise, 2024). Although the outdoor

environment itself supports stress reduction and general well-being (Chang et al., 2024; Hernawan et al., 2024; Parkinson et al., 2024; Wicks et al., 2022), the facilitator's leadership remains essential in maximizing these benefits and managing the psychological demands of an intensive camp experience.

Materials and Methods

Research design

This study employed a correlational research design, which is a non-experimental method used to explore and identify the nature and strength of the relationship between two or more variables. It is particularly suitable for understanding complex social and psychological phenomena, such as how different leadership styles may be associated with participants' levels of stress in an outdoor recreational setting (Wu et al., 2024). Rather than manipulating variables or assigning participants to experimental conditions, this design allows the researcher to observe natural variations in leadership behaviours and stress responses as they occur during the actual camp experience. The independent variable is the facilitators' leadership style (democratic, autocratic and laissez-faire), while the dependent variable is the participants' perceived stress level, measured through a validated stress scale (Narang et al., 2024; Wu et al., 2024).

Population and sampling

The target population specifically comprised the participants (students) involved in the Final Camp Seremban 3 Campus. A total of 109 participants were included in the study. Purposive sampling was deemed most appropriate as it allows the researcher to intentionally select participants who were directly involved in Final Camp Seremban 3 Campus and meet the defined inclusion criteria. Convenience sampling was also considered due to its practicality and ease of implementation. Inclusion criteria consisted of students actively attending the Final Camp Seremban 3 Campus, falling within the age range of 18–25 years, and who are mentally healthy with no history of neurological or mental disorders.

Sub-title/topic Instrumentation

A structured survey was used as the main method of data collection. The survey consisted of three main sections: Section A (Demographic Information), Section B (Facilitators' Leadership Style) and Section C (Participants' Stress Level). The items in Section B and C utilized a 5-point Likert Scale, where 1 = Strongly Disagree to 5 = Strongly Agree (Narang et al., 2024). Section B measured participants' perceptions of facilitators' leadership styles using 27 items categorized into three domains: Democratic Leadership Style (Items 1–16), Laissez-Faire Leadership Style (Items 17–24), and Autocratic Leadership Style (Items 25–27) (Narang et al., 2024; Wu et al., 2024). Section C measured participants' stress levels using 8 items categorized into four domains: Psychological Stress, Emotional Stress, Physical Stress and Coping Ability/Perceived Control (Chang et al., 2024; Hernawan et al., 2024). The Perceived Stress Scale (PSS) developed by Cohen et al. (1983) was employed to quantify self-perceived stress levels (*Table 1*).

Table 1. Summary of constructs.

Section	Variables	No. of Items	Scales	Main Sources
A	Demographic Profile	4	Close-ended questions	Researcher
B	Facilitators' Leadership Style	27	5-Point Likert Scale	Facilitators' Leadership Style Scale
C	Participants' Stress Levels	8	5-Point Likert Scale	Perceived Stress Scale

Data collection procedure and data analysis

Data collection was conducted through a web-based questionnaire distributed via Google Form, which allowed for efficient data collection from a large number of participants. The survey links were shared through official class communication channels, email and relevant social media platforms. Ethical compliance was ensured throughout the study. Participants were provided with a detailed explanation of the study's objectives, procedures, potential risks and benefits prior to participation. Informed consent was obtained digitally before the commencement of the questionnaire. Anonymity of responses was maintained by excluding any personally identifiable information. Data were analysed using JAMOV, an open-source statistical software. Descriptive statistics (frequencies, percentages, means and standard deviations) were used to summarize demographic characteristics and the prevalence of observed leadership styles and stress levels. Pearson Product-Moment Correlation Coefficient (r) was computed to test the relationship between leadership style and stress (Wu et al., 2024). Multiple Linear Regression Analysis was also conducted to examine the predictive impact of leadership styles on participants' stress. Effect size estimates, including Cohen's d and standardized regression beta coefficients, were reported.

Results and Discussion

Descriptive result for facilitators' leadership style (RO1)

A detailed and comprehensive analysis and discussion is given in this chapter on the findings of the study of how facilitators' leadership styles impacted participants' stress levels during the Final Camp at Seremban 3 Campus. Descriptive statistical analyses were performed to determine how facilitators' leadership style was perceived by participants. According to *Table 2*, participants had highly positive perceptions of facilitators' leadership style. The mean scores show that facilitators expressed consistently high levels of positive leader behaviour throughout the entirety of camp activities. According to participant reports, facilitators regularly used a combination of leadership styles, including providing clear instructions, fostering group participation and supporting participants through difficult tasks. The effective implementation of leadership styles indicated that facilitators were able to balance task leader responsibilities with interpersonal supportive behaviours.

Table 2. Descriptive result of leadership style.

Variable	Category	Mean	SD	Min	Max
Leadership Style	Democratic	4.4	.48	1.63	5.0
	Laissez-Faire	3.71	1.26	1.0	5.0
	Autocratic	4.28	.65	2.0	5.0

Descriptive results for participants' stress level (RO2)

Results from the descriptive statistical analysis of participant stress level during the Final Camp are summarized in *Table 3*. Although participants were exposed to several

physical challenges while participating in a demanding camp programme, they exhibited a range of low-to-moderate stress levels throughout the entire programme, and the overall levels of reported stress remained within a manageable range. The overall findings suggest that the programme provided an appropriate level of challenge without resulting in excessive psychological stress. The moderate level of stress experienced may, in itself, be considered healthy or normal for a person facing outdoor challenges such as fatigue, performance expectations and the novelty of the outdoor environment.

Table 3. *Distribution of participant stress level during final camp.*

Stress level	Frequency	Percentage (%)
Low	62	56.88
Moderate	18	16.51
High	29	26.61
Total	109	100.00

Reliability analysis

To ensure the instruments were measuring the constructs accurately, Cronbach's Alpha (α) was calculated. Both scales demonstrated internal consistency scores well above the recommended .70 threshold, as presented in *Table 4*.

Table 4. *Reliability analysis.*

Scale	Cronbach's alpha
Facilitators' Leadership Style	.89
Participants' Stress Level	.93

Descriptive statistics for main variables

Table 5 displays the mean and standard deviation for the main variables. Facilitator Leadership Style recorded a mean of 4.18 (SD = 0.52), suggesting that participants generally perceived the facilitators as effective. Participant Stress Levels recorded a mean of 2.59 (SD = 0.98), indicating a moderate-to-low level of stress.

Table 5. *Descriptive statistics for main variables.*

Variable	Mean (M)	Standard deviation
Facilitator Leadership Style	4.18	.52
Participant Stress Levels	2.59	.98

Correlation analysis (RO3)

Pearson's correlation analysis was conducted to examine the relationship between facilitators' leadership effectiveness and participants' stress levels. The results revealed a weak negative correlation between leadership effectiveness and stress level, $r(107) = -0.050$, $p = .602$ (*Table 6*). The negative value of the correlation coefficient indicates that an increase in leadership effectiveness was associated with a slight decrease in participants' stress levels. However, the relationship was not statistically significant, as the p-value exceeded the conventional significance level of 0.05.

Table 6. *Correlation matrix between facilitators' leadership effectiveness and participants' stress level.*

Category	Facilitators' leadership style
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Participants' Stress Levels	-0.05
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Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

Regression Analysis

A simple linear regression analysis was conducted to examine whether facilitators' leadership effectiveness significantly predicted participants' stress levels. The model fit measures indicate a weak relationship between the predictor and the outcome variable, with a correlation coefficient of $R = 0.0505$ and an R^2 value of 0.00255 . This suggests that facilitators' leadership effectiveness explained only 0.26% of the variance in participants' stress levels (Table 7). The regression coefficient shows that leadership effectiveness was a negative predictor of stress level ($\beta = -0.0954$), indicating that higher leadership effectiveness was associated with a slight decrease in participants' stress levels. However, this relationship was not statistically significant, $t(107) = -0.523$, $p = .602$. Therefore, facilitators' leadership effectiveness did not significantly predict participants' stress levels during the Final Camp.

Table 7. Regression coefficients-stress level.

Predictor	Estimate	SE	t	p	Stand. Estimate
Intercept	2.9896	0.769	3.887	< .001	-
Total Leadership Effectiveness	-0.0954	0.182	-0.523	0.602	-0.0505

The findings for Research Objective 1 show that facilitators displayed a generally high level of leadership effectiveness during the Final Camp at Seremban 3 Campus. Participants viewed the facilitators as supportive, approachable, and able to manage camp activities well. Effective leadership in outdoor recreation programmes is important for meeting activity demands, maintaining safety, and strengthening teamwork (Hsiao, 2025; Bingöl, 2023; Vigane and Dyrstad, 2022). Supportive and participative leadership helps participants feel involved in a trusting and cooperative environment, which supports psychological safety (Khairul Anuar and Mohd Kassim, 2024; Rasak et al., 2024). The high level of leadership effectiveness also suggests that facilitators adjusted their approach to suit the needs of each situation. This finding aligns with Situational Leadership Theory proposed by Hersey and Blanchard (as cited in Modise, 2024). The findings for Research Objective 2 indicate that participants experienced low to moderate stress levels throughout the Final Camp. Although some camp activities involved notable physical and mental challenges, these demands did not produce high stress or place participants at serious risk. In many outdoor recreation programmes, moderate stress can be beneficial because it may encourage participants to build resilience, explore new ways to solve problems, and improve emotional control (Chang et al., 2024; Parkinson et al., 2024; Wicks et al., 2022; Mohd Shobri et al., 2021). This result is consistent with Hernawan et al. (2024), who found that outdoor education programmes significantly reduced anxiety among sports college students.

The findings for Research Objective 3 show no meaningful relationship between facilitator leadership effectiveness and camper stress levels during the Final Camp. Although the results indicated a negative correlation between leadership effectiveness and stress level ($r = -.050$, $p = .602$), the relationship was weak and not statistically significant. This result suggests that factors other than facilitator leadership effectiveness influenced camper stress. These factors may include physical fatigue, environmental conditions, weather, activity intensity, and individual personality traits

(Parkinson et al., 2024; Wicks et al., 2022; Mohd Shobri et al., 2021). This finding agrees with Wicks et al. (2022), who reported that physical activity in natural environments offers greater psychological benefits, but stress outcomes also depend on several contextual factors. Although the study found no significant relationship between leadership effectiveness and camper stress level, this result does not suggest that leadership is unimportant. Instead, it indicates that leadership may influence stress indirectly rather than directly (Matos et al., 2024; Rasak et al., 2024; Wu et al., 2024). Effective leadership may help campers manage stress more comfortably, even if it does not remove stress entirely. This conclusion highlights the need for a holistic approach to stress management in outdoor programmes, which should include effective leadership, appropriate activity design, adequate rest, and stress management strategies (Hsiao, 2025; Hernawan et al., 2024; Parkinson et al., 2024; Wicks et al., 2022).

Conclusion

This study examined facilitator leadership effectiveness, participant stress levels, and the relationship between these two variables during the Final Camp at Seremban 3 Campus. The findings showed that facilitators demonstrated a high level of leadership effectiveness throughout the camp. Participants reported low to moderate stress levels, which suggests that the camp structure and support system were appropriate. The results also showed that leadership effectiveness had limited direct influence on participants' overall stress levels, which indicates that stress in this setting was shaped by several factors beyond leadership, including physical fatigue and environmental conditions. Future studies should examine other factors that may influence stress in outdoor camps, such as individual coping strategies, personality type, physical fitness, and peer support. Researchers may also strengthen future work by using larger samples, longitudinal designs, and mixed-method approaches to gain a deeper understanding of stress management in outdoor recreation programmes. Facilitators should continue to strengthen their leadership practice by remaining supportive, participative, and flexible, since effective leadership remains important in creating a safe and positive environment for participant learning and development.

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Conflict of interest

The authors confirm that there is no conflict of interest involve with any parties in this research study.

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