



The Relationship Between Student Motivation and Participation Level in Mountain Climbing as a Recreational Sport

Raka Maulana Malik¹, Muhammad Nur Alif², Rizal Ahmad Fauzi^{3*}

^{1,2,3} Physical Education, Universitas Pendidikan Indonesia, Jl. Dr. Setiabudi No.229, Isola, Kec. Sukasari, Kota Bandung, Jawa Barat 40154, Indonesia

e-mail: rakamaulanamalik03@upi.edu¹, mnalif@upi.edu², rizalafauzi@upi.edu³

Abstract

Mountain climbing as a recreational sport has become increasingly popular among university students. However, participation levels remain varied, indicating the need to examine psychological factors influencing student involvement, particularly motivation. This study aimed to analyze students' motivation levels, participation levels, and the relationship between the two variables in mountain climbing activities. A quantitative correlational design was employed involving 30 members of the Nature Lovers Student Activity Unit at the Indonesian University of Education, Sumedang Campus. Data were collected using the Intrinsic Motivation Inventory (IMI) questionnaire and a participation questionnaire based on Keith Davis's participation theory. The findings showed that most students had high motivation (83.3%) and high participation levels (83.3%). Pearson correlation analysis revealed a strong positive relationship between student motivation and participation level ($r = 0.776$, $p < 0.01$). These findings indicate that higher student motivation is associated with greater participation in mountain climbing activities. This study highlights the importance of strengthening intrinsic motivation through structured recreational sport programs to promote sustainable student participation.

Keywords: student motivation, participation level, mountain climbing, recreational sports, self-determination theory

corresponding author: rizalafauzi@upi.edu

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A. Introduction

The public's need for recreational and sports activities continues to increase in line with the high intensity of daily activities, both for workers and students. Recreation is an important alternative to relieve boredom, stress, and fatigue caused by busy routines. Law Number 3 of 2005 concerning the National Sports System divides sports into three types, one of which is recreational sports, which aims to maintain physical fitness and inner peace through enjoyable activities (Sumantri & Agustinah, 2024). Meanwhile, Law Number 10 of 2009 concerning Tourism also emphasizes that tourism is not just for pleasure, but also for self-development and exploration of the uniqueness of a destination (Atsmara & Kusuma, 2014).

One rapidly growing form of special interest tourism based on recreational sports is mountain climbing. This activity not only offers physical experiences and natural challenges, but also contributes to the mental and social well-being of participants (Bentley, 2024; Firdaus et al., 2026). Research by (Li et al., 2025) shows that college students involved in mountain sports tend to have higher levels of resilience, which correlates with their life satisfaction. Furthermore, (Zeng et al., 2024) showed the experience of mountain climbing also has the potential to improve emotional health, as involvement in outdoor activities has been shown to have a positive effect on positive feelings and a reduction in negative feelings among climbers. Mountain climbing is increasingly popular among college students because it offers a combination of physical challenges, social interaction, and closeness to nature (Crust, 2020).

One of the universities in the Sumedang region has a Student Activity Unit (UKM) for nature lovers who actively organize mountain climbing activities. This UKM was founded on the students' shared interest in outdoor activities and has become a community that contributes to

the character development and fitness of its members. Supported by Sumedang's geographical location close to various mountainous areas in West Java, as well as increasing student awareness of an active lifestyle and love for the environment, the number of students involved in mountain climbing activities under the auspices of the UKM nature lovers continues to grow from year to year.

Although mountain climbing activities show a positive trend, the level of student participation in this activity is uneven and has not yet reached its full potential. Based on a preliminary study conducted through interviews with five student members of a nature-loving student unit (UKM), it was found that there is variation in the motivations underlying their involvement. Students who are intrinsically motivated, such as a desire to challenge themselves, enjoy nature, and seek new experiences, tend to be more active and consistent in climbing activities. Conversely, students who are motivated solely by external factors, such as invitations from friends or social media trends, show erratic participation patterns. In addition to motivational factors, constraints such as limited time, cost, access to climbing locations, and a lack of information about safe and organized activities also influence student engagement (Wiguna et al., 2024).

Motivation is a crucial factor in encouraging and sustaining student participation in recreational sports activities (Cerar et al., 2014). Participation levels are strongly influenced by the experiences experienced during the activity, including the quality of community services, the availability of supporting facilities, the competence of guides, and the natural environment. Within the Self-Determination Theory (SDT) framework developed by Deci and Ryan, motivation is divided into intrinsic and extrinsic, with three basic psychological needs that must be met: autonomy, competence, and

connectedness (Ma et al., 2025). When these three needs are met, students will have a strong drive to participate actively and sustainably. A pleasurable hiking experience not only fosters participant loyalty but also positively impacts the development of a nature-loving community as part of the recreational sports ecosystem at universities (Chen et al., 2021).

Previous studies have generally focused on outdoor recreation activities in a broad context, such as hiking events, adventure tourism, and general physical recreation. However, limited studies specifically examine mountain climbing activities among university students in Indonesia, particularly within the context of student nature-lover organizations. In addition, previous research has rarely explored the direct relationship between student motivation and participation levels in mountain climbing activities as a recreational sport. Therefore, this study seeks to fill this gap by analyzing how motivation relates to student participation in mountain climbing within the Indonesian higher education context.

Based on this background, the researcher is interested in conducting a study on the Relationship between Student Motivation and the Level of Participation in Mountain Climbing Activities as a Recreational Sport among members of the nature-loving UKM at a university in the Sumedang region in 2026. This research is expected to contribute to the development of nature-based recreational sports as part of a sustainable student development program, as well as being a reference for UKM managers in designing climbing programs that are more effective, inclusive, and in accordance with the characteristics of student motivation.

B. Method

This study employed a quantitative approach with a correlational research design. The correlational design was

selected because the study aimed to examine the relationship between student motivation as the independent variable and participation level in mountain climbing activities as the dependent variable. Through this approach, the researchers were able to identify the strength and direction of the relationship between the two variables empirically.

This research was conducted at the Nature Lovers Student Activity Unit (UKM Pecinta Alam) of the Indonesian University of Education (UPI) Sumedang Campus. The location was selected because it matched the characteristics required for the study, namely university students who actively participated in mountain climbing activities as a form of recreational sport. The research was conducted over a two-month period from March to April 2026.

Previous studies have generally focused on outdoor recreation activities in a broad context, such as hiking events, adventure tourism, and general recreational sports. However, studies specifically examining mountain climbing activities among university students in Indonesia remain limited. In addition, previous research has rarely investigated the direct relationship between student motivation and participation levels in mountain climbing activities. Therefore, this study aimed to address this research gap by examining the relationship between motivation and participation among university students involved in mountain climbing activities.

The population in this study consisted of all members of the Nature Lovers Student Activity Unit (UKM) at UPI Sumedang Campus who actively participated in mountain climbing activities. Because the total number of members was relatively limited, this study applied a total sampling (saturated sampling) technique, in which all 30 members were selected as research respondents.

Data were collected using

questionnaires to measure student motivation and participation levels. The instrument used to measure student motivation was the Intrinsic Motivation Inventory (IMI) questionnaire, which was adapted into a five-point Likert scale ranging from strongly disagree to strongly agree. The instrument included several dimensions, namely interest/enjoyment, perceived competence, effort, value/usefulness, and pressure/tension. Meanwhile, student participation levels were measured using a questionnaire based on Keith Davis's participation theory, which includes four indicators: mental and emotional involvement, motivation to contribute, acceptance of responsibility, and commitment to shared goals.

Before being administered to the respondents, the instruments were tested for validity and reliability using 20 respondents outside the research sample. Validity testing was conducted to determine whether the instrument accurately measured the

intended variables, while reliability testing aimed to examine the consistency of the measurement results (Janna, 2021). The results indicated that all instruments were valid and reliable. The student motivation variable showed a Cronbach's alpha coefficient of 0.951, while the participation level variable showed a Cronbach's alpha coefficient of 0.916, indicating excellent reliability levels for both instruments.

C. Results and Discussion

Results

This research was conducted in Sumedang, West Java Province, over two months, from March to April 2026. The data in this study were obtained by distributing questionnaires to respondents who were members of the Nature Lovers Student Activity Unit (UKM) at UPI Sumedang Campus. The number of respondents in this study was 30 students. The characteristics of respondents based on gender and age are presented in Table 1.

Tabel 1. Respondent characteristics based on gender and age in the Nature Lovers UKM.

Characteristics	Frequency	Percentage (%)
Gender		
Male	21	70.0
Female	9	30.0
Total	30	100
Age		
19 years	17	56.7
20 years	13	43.3

Source: Data Processing Results (2026)

Based on the questionnaire results from 30 respondents, the majority of participants were male students, accounting for 21 respondents (70.0%), while female students accounted for 9

respondents (30.0%). Based on age, most respondents were 19 years old, representing 56.7% of the total respondents.

Tabel 2. Results of Student Motivation Analysis in Mountain Climbing Activities.

Motivation Category	Frequency	Percentage (%)
High	25	83.3
Moderate	5	16.7
Low	0	0
Total	30	100

Source: Data Processing Results (2026)

The results showed that 25 respondents (83.3%) had high motivation, while 5 respondents (16.7%) had moderate motivation toward mountain climbing activities. No respondents were

categorized as having low motivation. These findings indicate that students generally demonstrated high motivation in participating in mountain climbing activities.

Tabel 3. Distribution of participation levels in mountain climbing activities

Participation Category	Frequency	Percentage (%)
High	25	83.3
Moderate	5	16.7
Low	0	0
Total	30	100

Source: Data Processing Results (2026)

The results indicated that 25 respondents (83.3%) showed high participation levels, while 5 respondents (16.7%) demonstrated moderate participation levels in mountain climbing

activities. No respondents were categorized as having low participation levels. Therefore, the overall level of student participation in mountain climbing activities can be categorized as high.

Tabel 4. Pearson Correlation Test Results on the Relationship between Student Motivation and the Level of Participation in Mountain Climbing Activities as a Recreational Sport

Variables	Mean	Pearson Correlation	P-value
Student Motivation	142.7	0.776	<0.01
Participation Level	85.0		

Source: Data Processing Results (2026)

Based on the Pearson correlation test results, the correlation coefficient (r) between student motivation and participation level was 0.776 with a significance value (p -value) of <0.01 and a sample size of 30 respondents. This result indicates a strong and positive relationship between motivation and participation in mountain climbing activities. The correlation coefficient ($r = 0.776$) suggests that students with higher intrinsic motivation are more likely to participate consistently in mountain climbing activities.

Discussion

This study examined the relationship between student motivation and participation levels in mountain climbing activities as a recreational sport among members of the Nature Lovers Student Activity Unit (UKM) at UPI Sumedang Campus. The findings revealed that both student motivation and participation levels

were generally high, indicating that mountain climbing activities are positively perceived and actively followed by university students involved in outdoor recreational sports.

Based on respondent characteristics, the majority of participants were male students (70%), while female students accounted for 30% of the respondents. This finding indicates that male students still dominate participation in mountain climbing activities. However, the involvement of female students demonstrates that outdoor recreational sports are increasingly attracting broader participation among university students regardless of gender. This trend reflects the growing awareness of healthy lifestyles, outdoor recreation, and equal participation opportunities in sports activities.

In terms of age, most respondents were 19 years old (56.7%), while the remaining respondents were 20 years old (43.3%). Students in this age range are generally

characterized by high levels of curiosity, enthusiasm for exploration, and strong interest in physical challenges and social interaction. These characteristics may contribute to students' interest in participating in mountain climbing activities, which provide opportunities for adventure, teamwork, and self-development.

The results showed that student motivation toward mountain climbing activities was predominantly high. A total of 83.3% of respondents were categorized as having high motivation, while 16.7% were categorized as having moderate motivation. These findings indicate that students participate in mountain climbing activities because they perceive these activities as enjoyable, beneficial, and meaningful. Mountain climbing activities not only provide recreational experiences but also contribute to physical fitness, stress reduction, emotional well-being, and opportunities for social interaction. The supportive social environment within the nature-loving student organization may also strengthen students' motivation to participate actively in outdoor recreational activities.

Similarly, the level of participation in mountain climbing activities was categorized as high. Most respondents (83.3%) demonstrated high participation levels, while 16.7% showed moderate participation levels. This finding suggests that students who are involved in nature-loving student organizations tend to participate actively and consistently in mountain climbing activities. High participation levels may be influenced by positive group dynamics, shared interests among members, and the availability of organized outdoor recreational programs. However, several factors such as academic responsibilities, financial limitations, physical condition, and time constraints may still affect the participation levels of some students.

The Pearson correlation analysis showed a correlation coefficient value of $r = 0.776$ with a significance value of $p < 0.01$. This result indicates a strong, positive, and significant relationship between student motivation and participation level in mountain climbing activities. The correlation coefficient ($r = 0.776$) indicates a strong association, suggesting that students with higher intrinsic motivation are more likely to participate consistently in mountain climbing activities. In other words, motivation plays an important role in encouraging students to engage actively in recreational sports activities (Alecu et al., 2025; Marpaung et al., 2024).

These findings are consistent with previous studies explaining that motivation is one of the main factors influencing participation in physical and recreational activities (Fauzi et al., 2019; Radebe et al., 2025). Students who have strong internal motivation tend to participate more actively because they enjoy the activity itself and perceive meaningful benefits from their involvement (Lo et al., 2022). Conversely, students with lower motivation may participate less consistently due to external barriers such as lack of time, limited resources, or insufficient social support (Elmahgoub et al., 2025).

Overall, this study confirms that motivation is closely related to student participation in mountain climbing activities as a recreational sport. Therefore, universities and nature-loving student organizations are encouraged to develop programs that can strengthen students' intrinsic motivation and sustain participation in outdoor recreational activities. Such efforts may include organizing structured climbing programs, improving safety education and training, providing supportive peer environments, and promoting the physical and psychological benefits of recreational sports among university students.

D. Conclusion

This study concluded that students involved in mountain climbing activities generally showed high levels of motivation and participation. The findings also revealed a strong and significant positive relationship between student motivation and participation level in mountain climbing activities ($r = 0.776$, $p < 0.01$). These results indicate that motivation plays an important role in encouraging student participation in recreational sports. Therefore, universities and nature-loving student organizations are encouraged to develop programs that strengthen students' intrinsic motivation to sustain participation in outdoor recreational activities.

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F. Conflict of Interest

No Conflict of Interest.

Reference

- Alecu, S., Onea, G. A., & Badau, D. (2025). The Relationship Between Motivation for Physical Activity, Physical Activity Level, and Body Mass Index for University Students. *Sports*, 13(4), 96. <https://doi.org/10.3390/sports13040096>
- Atsmara, A. N., & Kusuma, B. M. A. (2014). Relevancy of Law No. 10 Year 2009 about Tourism Towards Creative Economy as a New Platform Of Tourism Development in Indonesia. *Journal of Indonesian Tourism and Development Studies*, 2(1), 33–39. <https://doi.org/10.21776/ub.jitode.2014.002.01.05>
- Bentley, L. (2024). *Psychological Benefits of Adventure Tourism*. (2), 97–103.
- Cerar, K., Kondrič, M., Ochiana, N., & Sindik, J. (2014). Exercise Participation Motives and Engaging In Sports Activity among University of Ljubljana Students. *Open Access Macedonian Journal of Medical Sciences*, 5(6), 794–799. <https://doi.org/10.3889/oamjms.2017.159>
- Chen, F., Naylor, M., & Li, Y. (2021). *Festival or Sport? Chinese Motivations to a Modern Urban Hiking Event*. (6). <https://doi.org/10.1177/2158244020986155>
- Crust, L. (2020). Personality and mountaineering: A critical review and directions for future research. *Personality and Individual Differences*, 163, 110073. <https://doi.org/10.1016/j.paid.2020.110073>
- Elmahgoub, S., Mohamed, H., El Taguri, A., Beregi, T., Aburub, A., & Ács, P. (2025). Motives and Barriers to Physical Activity Participation Among University Students. *International Journal of Environmental Research and Public Health*, 22(11), 1646. <https://doi.org/10.3390/ijerph22111646>
- Fauzi, R. A., Safari, I., Alif, M. N., & Saptani, E. (2019). Physical Education Program in Elementary School: Motivation Comparison to Learn Table Tennis using Mini-pong based on Gender: *Proceedings of the 3rd Yogyakarta International*

- Seminar on Health, Physical Education, and Sport Science in Conjunction with the 2nd Conference on Interdisciplinary Approach in Sports*, 203–210. <https://doi.org/10.5220/0009307602030210>
- Firdaus, F., Safari, I., & Fauzi, R. A. (2026). Associations between physical activity intensity and motor balance in elementary school students: A sequential explanatory mixed-methods study. *Physical Education and Sports: Studies and Research*, 5(1), 47–56. <https://doi.org/10.56003/pessr.v5i1.706>
- Li, L., Chu, Z., Li, F., Li, J., Wang, K., & Zhou, Y. (2025). The effect of mountaineering on the grit of college students: An empirical study. *PeerJ*, 13, e19086. <https://doi.org/10.7717/peerj.19086>
- Lo, K. W. K., Ngai, G., Chan, S. C. F., & Kwan, K. (2022). How Students' Motivation and Learning Experience Affect Their Service-Learning Outcomes: A Structural Equation Modeling Analysis. *Frontiers in Psychology*, 13, 825902. <https://doi.org/10.3389/fpsyg.2022.825902>
- Ma, D., Akram, H., & Li, S. (2025). Assessing the role of physical activity in shaping students' academic motivation: The mediating role of mental health. *BMC Public Health*, 26(1), 32. <https://doi.org/10.1186/s12889-025-25541-8>
- Marpaung, D. R., Malau, C. A., Napitupulu, P. A., Ginting, A. G. E., & Ginting, I. M. B. (2024). The Influence of Psychosocial Factors on Motivation and Compliance in Table Tennis Training. *Journal Coaching Education Sports*, 5(1), 45–52. <https://doi.org/10.31599/jzty0z76>
- Radebe, S. S., Breukelman, G. J., Joubert, A. S., & Millard, L. (2025). Primary Motives and Barriers to Physical Activity Participation Among Students Registered at a Semi-Rural University: A Mixed-Methods Study. *International Journal of Environmental Research and Public Health*, 22(3), 344. <https://doi.org/10.3390/ijerph22030344>
- Sumantri, A., & Agustinah, N. (2024). Sosialisai Pemahaman Tentang Apa Itu Olahraga Rekreasi dan Apa Itu Olahraga Prestasi di Desa Padang Batu. 3(1), 125–130.
- Wiguna, A. R. F., Safari, I., & Fauzi, R. A. (2024). Profil of Sumedang Sport Climbing Athlete. *ACTIVE: Journal of Physical Education, Sport, Health and Recreation*, 13(2), 301–310. <https://doi.org/10.15294/peshr.v13i2.4931>
- Zeng, Z., Zhou, Y., & Li, L. (2024). Acute mountain sickness predicts the emotional state of amateur mountaineers. *Scientific Reports*, 14(1), 4799. <https://doi.org/10.1038/s41598-024-55291-3>