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Scouting Extracurricular Activities as a Means of Increasing Motivation for Physical Activity: an Analysis of Gender Differences in Students

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Abstract

Engaging students in physical activity through extracurricular programs remains a persistent challenge in educational settings, as declining participation rates continue to raise concerns among educators and health professionals. This study investigated the motivational factors underlying physical activity among Scouting extracurricular members at Kerinci 6 State Senior High School. A descriptive survey involving 40 participants (30 females, 10 males) measured both intrinsic and extrinsic motivation using a validated 28-item questionnaire with a reliability coefficient of 0.92.. Results indicated that male participants demonstrated marginally higher scores on both motivation dimensions compared to their female counterparts; statistical analysis, employing independent samples t tests, revealed no significant gender differences ($p > 0.05$). Correlation analysis yielded noteworthy findings: intrinsic motivation exhibited a near perfect correlation with physical activity motivation ($r = 0.975$, $p < .001$), substantially stronger than the correlation observed for extrinsic motivation ($r = 0.797$, $p < .001$). These findings suggest that fostering genuine interest and personal satisfaction prove more effective than external incentives in promoting sustained physical activity engagement. Longitudinal investigations are warranted to establish the durability of these motivational patterns.

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INTRODUCTION

Research on physical activity in Scouting has yielded mixed results. A study of Junior Girl Scout troops found low levels of moderate to vigorous physical activity (MVPA) during meetings, with girls spending only 2 minutes in MVPA and over 90 minutes sedentary (Ornelas & Rosenkranz, 2009). However, interventions have shown potential for improvement. The Scout Nutrition and Activity Program (SNAP) increased physical activity during troop meetings (Guagliano & Rosenkranz, 2012), and a randomized controlled trial showed that intervention troops provided more opportunities for healthy eating and physical activity compared to control troops (Rosenkranz et al., 2010). In Boy Scouts, the Personal Fitness merit badge program significantly improved cardiovascular endurance, although it did not affect metabolic syndrome scores, daily step count, or BMI (Maxwell et al., 2017).

The importance of physical activity for children and adolescents, especially in challenging contexts. During the COVID-19 pandemic, restrictions on physical activity led to decreased physical activity levels in children, with the exception of outdoor activities (Rossi et al., 2021). Physical activity behavior is complex, influenced by biological, psychological, and social factors, highlighting the need for a transdisciplinary approach to research (John et al., 2020). For children with neurodevelopmental disabilities, community-based physical activity programs have demonstrated positive impacts on cognitive outcomes, including improved focus, attention, and self-control (Gitimoghaddam et al., 2021). In adolescent and young adult cancer survivors, physical activity interventions have been shown to be feasible and acceptable, primarily focusing on aerobic activity and evaluating physical and mental health outcomes (Caru et al., 2022). These studies underscore the potential benefits of physical activity across diverse populations and contexts, emphasizing the need for further research and targeted interventions.

The motivational underpinnings of extracurricular participation have attracted considerable scholarly attention in recent years. Acar & Gündüz, (2017) identified four primary motivational categories driving student involvement: skill acquisition, enjoyment derived from participation, pursuit of recognition or status, and physical fitness benefits. Building upon this framework, Chapman et al., (2023) demonstrated that motivational orientations vary considerably depending on activity type and educational level, encompassing extrinsic, intrinsic, social, and prosocial dimensions. Denault et al., (2022) employed cluster analysis to identify distinct motivational profiles, revealing that students characterized by autonomous motivation demonstrated substantially higher retention rates compared to their externally motivated peers. Within medical education specifically, Fujii et al., (2022) documented that community contribution, career preparation, and soft skill development constitute salient motivational factors. Nonetheless, structural barriers impede participation; limited availability of positions, competitive selection processes, and competing academic demands frequently constrain student involvement (Fujii et al., 2022). The cumulative evidence indicates that extracurricular engagement facilitates holistic development encompassing physical, psychological, and social dimensions (Acar & Gündüz, 2017), yielding benefits that extend well beyond conventional academic metrics (Chapman et al., 2023).

Promoting physical activity within extracurricular contexts presents multifaceted challenges across educational levels. Pavlović (2016) documented a concerning developmental trajectory: physical activity participation declines progressively with age, with data indicating that merely 22% of female secondary school students meet recommended activity thresholds. Within tertiary education, Dovgopol (2020) identified inadequate infrastructure, insufficient health literacy, and motivational deficits as primary barriers to participation. Rural educational institutions face particularly acute challenges; Edwards et al (2011) found that middle schools in these areas frequently lack the resources to implement evidence based physical activity programming. Qualitative investigations by Esenturk et al (2016) revealed problematic attitudes among stakeholders: both students and parents commonly perceive sports participation as detracting from academic priorities. Compounding these attitudinal barriers, Esenturk et al (2016) noted that insufficient facilities, inadequate equipment, and constrained scheduling further compromise program implementation. Taken together, these findings underscore an urgent need for strategic interventions that address both structural deficiencies and attitudinal resistance to physical activity across all educational strata.

Physical activity interventions have been shown to positively impact the mental health and physical performance of children and adolescents, including those with neurodevelopmental disorders. High-intensity interval training, both

within and outside of physical education, improves neuromuscular and anaerobic performance in schoolchildren (Bauer et al., 2022). For children with ADHD, cognitively engaging exercise less than 3 times per week for less than 8 weeks is most effective in improving attention problems (Li et al., 2023). Physical activity interventions benefit mental health, cognitive function, and overall psychological well-being and reduce internalizing and externalizing problems in children with various neurodevelopmental disorders (Liu et al., 2024). However, the COVID-19 pandemic significantly decreased physical activity levels by 23.2 minutes per day and negatively impacted the quality of life of children and adolescents (Pang et al., 2023).

Motivation for physical activity plays a significant role in scouting extracurricular activities, which are predominantly outdoor. Given the gap between the issues outlined in the background and theories on physical activity, the purpose of this study is to analyze the physical activity motivation of students participating in Scouting extracurricular activities. The novelty of this research lies in the focus of comparative and correlational analysis between intrinsic and extrinsic motivation in the context of Scouting extracurricular activities in secondary schools, which specifically integrates a quantitative descriptive approach to map the role of motivational factors in students' physical activity engagement.

METHODS

This type of research is descriptive research, which is in accordance with the definition that descriptive research aims to provide an analytical overview of the intrinsic, extrinsic, and physical activity motivations of students participating in the Scouting extracurricular activity. The author wants to examine the relationship between intrinsic, extrinsic, and physical activity motivation variables and to see if there are differences between these three variables based on gender.

The respondents involved in this study were all students who participated in the scouting extracurricular at Kerinci 6 State Senior High School, totaling 40 students, with 30 female students and 10 male students.research, po-pulasi, samples, variables, da-ta-taking techniques, data validity, measurement techniques and data analysis techniques. In addition, on the research of kuan-titatif, no need to redundantly statistical formulas written in the section of the method.

The research instrument used in this study was a physical activity motivation questionnaire consisting of two dimensions: intrinsic motivation with indicators of desire to do physical activity in extracurricular activities, interest in extracurricular activities, and ideals and hopes. The extrinsic motivation dimension consists of indicators of drive and need, interesting forms of activity, and conducive activity conditions. The questionnaire has been validated, and there are 28 statements that are declared valid with a reliability value of 0.92.

Data were obtained by administering a questionnaire to students participating in the Scouting extracurricular activity, who had previously completed a consent form as proof of their willingness to be research subjects. Data were analyzed using Jamovi 2.6 software, using descriptive analysis, correlation analysis, and independent sample t-tests.

RESULTS AND DISCUSSION

The following are the results of data analysis on the relationship between intrinsic, extrinsic, and physical activity motivation variables and the differences between the three variables based on gender, including descriptive analysis, correlation analysis, and independent sample t-tests.

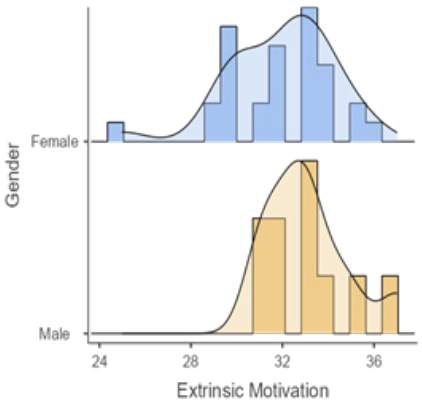
Table 1. Descriptives between intrinsic, extrinsic, and physical activity motivation

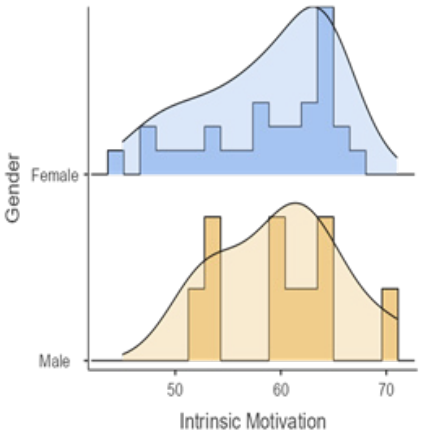
	Gender	Extrinsic Motivation	Intrinsic Motivation	Physical Activity Motivation
N	Female	30	30	30
	Male	10	10	10
Mean	Female	31.9	58.7	90.7
	Male	33.1	60.1	93.2
Median	Female	32.0	60.0	92.5
	Male	33.0	60.5	93.0
Standard deviation	Female	2.27	6.27	7.98
	Male	1.85	5.93	7.21

Table 1 shows descriptive data regarding extrinsic motivation, intrinsic motivation, and physical activity motivation based on gender. The total participants in this study were 40 people, consisting of 30 women and 10 men. Average (Mean) Extrinsic Motivation: Women 31.9, Men 33.1. Men have a higher average extrinsic motivation than women. Intrinsic Motivation: Women 58.7 and Men 60.1. Men also showed a higher average intrinsic motivation. Total Physical Activity Motivation (Extrinsic + Intrinsic): Women 90.7 and Men 93.2. Overall, men have a slightly high-

er level of motivation. Median The middle value shows a representative value that divides the data into two equal parts: Extrinsic Motivation Women 32.0 and Men 33.0. While intrinsic motivation is 60.0 for women and 60.5 for men. Total physical activity motivation for women: 92.5 and men: 93.0. The median supports the mean result, that men have higher motivation. Standard Deviation Describes the diversity or distribution of values from the average; extrinsic motivation for women is 2.27 and for men 1.85. Women's extrinsic values are more varied than men's. As well as intrinsic motivation for women (6.27) and men (5.93), the variation in women's intrinsic motivation is slightly greater. Physical activity motivation for women is 7.98 and for men 7.21; the distribution of women's total motivation is also slightly greater. Initial Conclusion Men have a slightly higher average motivation (extrinsic and intrinsic) than women. However, the number of men is smaller, so caution is needed in making generalizations. The distribution of women's data is slightly higher, which means there is a wider variation in motivation within the women's group.

The following **Figure 1.** Histogram and density data that illustrates the descriptive analysis of research data.





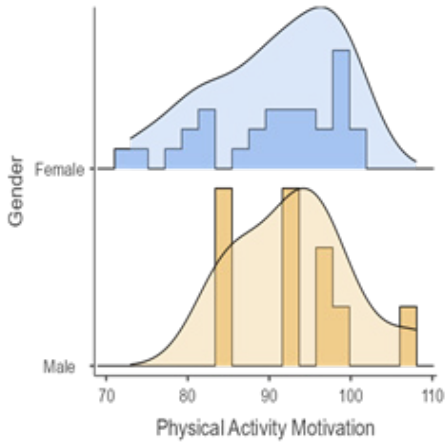


Figure 1. Histogram and density graph of extrinsic motivation, intrinsic motivation, and total motivation

The next analysis was to examine the relationship between the three variables extrinsic motivation, intrinsic motivation, and physical activity motivation in participating in Scouting extracurricular activities. The following correlation analysis is presented in the plot in **Figure 2**.

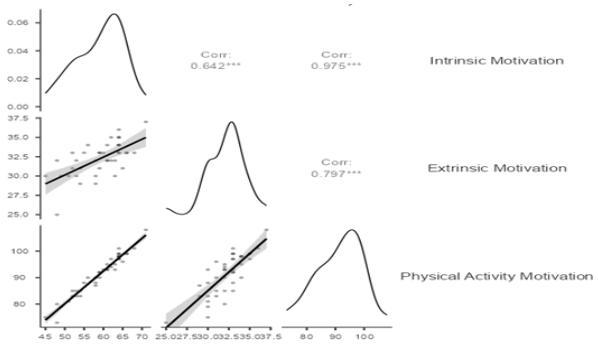


Figure 2. Correlation Plot of Intrinsic Motivation, Extrinsic Motivation, and Physical Activity Motivation

Figure 2 is a matrix plot showing the relationship between three variables: intrinsic motivation, extrinsic motivation, and physical activity motivation. This graph displays the Pearson Correlation Coefficient (r), showing the direction and strength of the relationship between variables. The relationship between intrinsic motivation and extrinsic motivation is $r = 0.642$, $p < .001$, which means it has an interpretation that the correlation is strong and significant and has the meaning that the higher a person's intrinsic motivation, the higher their extrinsic motivation tends to be. The correlation between intrinsic motivation and physical activity motivation is $r = 0.975$, $p < .001$, which means it has an interpretation

that the correlation is very strong, almost perfect, and significant and has the meaning that individuals who have high intrinsic motivation are also very likely to be physically active. While extrinsic motivation and physical activity motivation have $r = 0.797$ and $p < .001$, which means it has an interpretation that the correlation is strong and significant, meaning that motivation from outside (e.g., rewards, recognition) is also very related to the level of physical activity. In general, all correlations are positive and significant. Intrinsic motivation has the strongest relationship to physical activity compared to extrinsic motivation. This shows that internal drives (such as personal interest and self-satisfaction) are the most influential factors on involvement in physical activity.

Table 2. Independent sample t-test of intrinsic motivation, extrinsic motivation, and physical activity motivation

		Statistic	df	p	Mean difference	SE difference
Extrinsic Motivation	Student's t	-0.619	38.0	0.540	-1.40	2.261
Intrinsic Motivation	Student's t	-1.465	38.0	0.151	-1.17	0.796
Physical Activity Motivation	Student's t	-0.889	38.0	0.380	-2.53	2.850

Note. H_a μFemale ≠ μMale

Table 2 shows the independent samples t-test analysis that tests whether there are significant differences in intrinsic motivation, extrinsic motivation, and physical activity motivation of students who participate in extracurricular scouting for female and male students. Intrinsic Motivation Value $t = -0.619$, $p = 0.540$, Mean Difference = -1.40, On average, women's intrinsic motivation is 1.40 points lower than men's, with a p-value > 0.05, meaning there is no significant difference between women and men in intrinsic motivation. Extrinsic Motivation Value: $t = -1.465$, $p = 0.151$, mean difference = -1.17, where women are slightly lower on average. $p > 0.05$, meaning there is no significant difference between genders in extrinsic motivation. Meanwhile, physical activity motivation has a value of $t = -0.889$, $p = 0.380$, and a mean difference of -2.53, where women are lower in total motivation, but the p-value is > 0.05, which means there is no significant difference in total motivation between women and men. In general, there is no statistically significant difference between women and men in the three types of motivation. All p-values are greater than 0.05, so the null hypothesis (H_0: μWomen = μMen) is not rejected. On average, men are slightly higher in motivation scores, but the difference is not large enough to be considered statistically significant.

Examination of the descriptive statistics revealed that male participants obtained marginally elevated mean scores on both intrinsic motivation ($M = 60.1$) and extrinsic motivation ($M = 33.1$) relative to female participants (intrinsic $M = 58.7$; extrinsic $M = 31.9$). Notably, the standard deviation values for females exceeded those observed for males across all measured variables, suggesting greater heterogeneity in motivational orientations within the female subsample. The correlation analysis yielded particularly instructive findings. While both motivational dimensions demonstrated statistically significant positive associations with physical activity motivation, the magnitude of these relationships differed substantially. Intrinsic motivation exhibited a remarkably strong correlation coefficient ($r = 0.975$, $p < .001$), approaching unity, whereas extrinsic motivation, though significantly correlated, demonstrated a comparatively weaker association ($r = 0.797$, $p < .001$). Independent samples t test analysis failed to detect statistically significant gender differences across any motivational dimension (all p values > 0.05). These quantitative findings point toward the primacy of internally regulated motivation in sustaining physical activity engagement among youth.

The empirical literature examining gender differences in motivation presents an equivocal picture. Eagly et al (1994) conducted a comprehensive meta analysis indicating that males demonstrate elevated motivation toward managerial attainment and achievement striving relative to females. Çetinkalp (2012) corroborated these patterns within athletic contexts, documenting higher external regulation and task orientation scores among male participants. Kalkowski & Fritz (2004), adopting a more cautious interpretation, argued that observed gender disparities are modest in magnitude and substantially confounded by hierarchical position and prevailing gender role expectations. Musikhina (2024) contributed nuanced observations regarding goal setting patterns: females tend toward pragmatic, sustainable objectives, whereas males more frequently pursue ambitious targets. Cultural context emerges as a critical moderating variable; societal norms and gender stereotypes shape motivational orientations in ways that resist simple generalization across populations (Musikhina, 2024). The inconsistency in empirical findings, with some investigations documenting female superiority in specific motivational domains (Kalkowski &

Fritz, 2004), suggests that gender operates as one factor among many in determining motivational outcomes. Recognizing this complexity holds practical implications for designing educational interventions that effectively engage all students regardless of gender.

A growing body of cross cultural research documents the beneficial relationship between extracurricular participation and both motivational and academic outcomes. Acar & Gündüz (2017) established that skill acquisition, intrinsic enjoyment, and achievement striving constitute core motivational drivers within extracurricular contexts. Denault et al (2022) extended this work by demonstrating that activity leaders who provide autonomy support foster the development of autonomous motivational profiles, which in turn predict sustained engagement over time. The theoretical and practical significance of these findings is amplified by evidence of motivational transfer across domains. Denault & Guay (2017) documented that self determined motivation cultivated through extracurricular participation generalizes to academic settings, enhancing both intrinsic academic motivation and self regulatory capacities. Verner Filion et al (2025) elaborated the mechanisms underlying this transfer, identifying psychological need satisfaction as a critical mediating pathway linking extracurricular motivation to improved academic performance. These converging findings carry substantial implications for educational practice. Programs designed to nurture autonomous motivation within extracurricular activities may yield benefits extending well beyond the immediate activity context, potentially enhancing overall educational engagement and achievement.

Multiple factors operate in concert to shape student motivation toward extracurricular engagement. Leadership development represents one particularly salient motivational pathway; Amadi et al (2025), Gumilar (2024), and Gumilar et al (2025) independently documented that exposure to leadership roles within cocurricular settings enhances students' motivation to assume future leadership responsibilities. The relationship between extracurricular physical activity and academic achievement has received substantial empirical support. Zarazaga-Peláez et al (2024) identified cognitive enhancement, psychological wellbeing, and social integration as mediating mechanisms through which physical activity promotes academic success, findings that align with the United Nations Sustainable Development Goals framework. Pedagogical innovations also merit consideration. Ratinho & Martins (2023) conducted a systematic review indicating that gamification strategies effectively boost initial motivation, though they cautioned that novelty effects may attenuate over extended implementation periods. Within physical education specifically, Tendinha et al 92021) demonstrated that the Sport Education model enhances motivation through increased perceived autonomy and enjoyment. Individual difference variables further contribute to motivational variance; Gumilar et al (2023) identified emotional intelligence and leadership self efficacy as significant predictors, particularly when institutional support structures reinforce leadership development opportunities.

CONCLUSION

This investigation examined motivational factors underlying physical activity among Scouting extracurricular participants at Kerinci 6 State Senior High School. Male participants demonstrated slightly elevated motivation scores compared to females, though independent samples t test analysis revealed no statistically significant gender differences across intrinsic motivation, extrinsic motivation, or total physical activity motivation. The female subsample exhibited greater score dispersion, indicating substantial individual variation in motivational orientations among female participants. Correlation analysis yielded the most theoretically significant finding: intrinsic motivation demonstrated a near perfect positive correlation with physical activity motivation, substantially exceeding the corresponding correlation for extrinsic motivation. This pattern suggests that interventions emphasizing genuine interest, personal enjoyment, and self determined engagement prove more effective than reward based approaches in promoting sustained physical activity participation. Several limitations warrant acknowledgment. The modest sample size (N = 40) and single site design constrain generalizability. The cross sectional methodology precludes causal inference regarding the direction of motivational effects. Future research should employ longitudinal designs with larger, more diverse samples to establish whether early Scouting participation produces enduring effects on physical activity habits and motivational orientations. Notwithstanding these limitations, the present findings support the potential utility of Scouting programs as vehicles for promoting youth physical activity through cultivation of intrinsic motivational orientations.

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