

PARTICIPATION IN EXTRACURRICULAR ACTIVITIES AND STUDENT ACADEMIC ACHIEVEMENT

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ABSTRACT

Students have many interests and engage in various activities in their free time. These activities can help them acquire metacognitive skills that are useful for enhancing learning and academic achievement. In this paper, we investigated whether participation in extracurricular activities is associated with student academic achievement. Using a convenience sample of 132 students from secondary schools in Celje, Slovenia, we found a statistically significant association between participation in extracurricular activities and student academic achievement. Students who participate in extracurricular activities have, on average, higher academic achievement. However, we did not find a statistically significant association between the type of extracurricular activity (sports and/or music, n=94) and academic achievement. We conclude that the effects of extracurricular activities are not uniform but depend on various factors, such as the way in which students participate, the intensity of their involvement, the number of activities, their personality, and their social environment, all of which would be worth studying in more detail.

Keywords: Extracurricular Activities, Music, Sports, Student Academic Achievement.

1. INTRODUCTION

Research [1] indicates that adolescents' participation in extracurricular activities significantly contributes to the development of social skills, independence, responsibility, self-discipline, effective time management, and intrinsic motivation for work and learning. Positive effects are also associated with better psychological adjustment, higher academic achievement, and, often, a lower incidence of risky behaviour. On the other hand, extracurricular activities can also pose an additional burden for students, reducing the time available for studying and rest, which may negatively affect their academic achievement [2]. Therefore, this study focused on how students balance their school obligations and leisure time, specifically whether there is an association between students' participation in extracurricular activities and their academic achievement.

1.1 Learning, factors INFLUENCING LEARNING, AND STUDENTS' ACADEMIC ACHIEVEMENT

Learning is a change in an individual's activities (e.g., perception, experience of the environment and oneself, knowledge, understanding, attitudes, skills, and behaviour) resulting from experience, which has a relatively lasting effect and cannot be attributed to growth and development [3], [4]. The effectiveness of learning depends on numerous factors: physiological

factors (e.g., hunger, thirst, fatigue, illness, and individual physical impairments), psychological factors (e.g., abilities, motivation, emotions, and learning styles), physical factors (e.g., lighting, temperature, ventilation, and noise), and social factors (e.g., family support, peer influence, educational policy, the curriculum, and teaching methods), which are strongly intertwined and interconnected [5]. In the following sections, we will focus particularly on the psychological and social factors influencing students' academic achievement.

In the school environment, students' abilities are often among the first psychological factors influencing learning that we notice. Abilities can be defined as relatively stable capabilities of individuals that determine how successfully they perform certain tasks, solve problems, and adapt to various environmental demands [4]. Modern models of abilities emphasize that abilities are not a one-dimensional construct but instead represent a complex hierarchical system in which general cognitive abilities and specific domains of functioning are intertwined [6], [7]. When understanding abilities, it is important to distinguish between an individual's cognitive abilities and the knowledge and skills they acquire through experience and education. Abilities represent the potential for successful learning and performance of activities, whereas knowledge and skills are developed primarily through education, experience, and practice. Within the framework of the CHC theory, fluid reasoning is associated with the ability to solve new problems and adapt to new demands, whereas crystallized intelligence reflects the depth and breadth of knowledge and skills that an individual acquires through learning and experience [8], [6]. In the context of education, cognitive abilities represent an important factor in academic achievement; however, they are not its sole predictor, since academic outcomes are also influenced by motivational, emotional, social, and other factors [9].

Motivation, for example, directs an individual's activities toward set goals [4], [5]. Intrinsic motivation leads an individual to achieve goals based on personal interests that are (positively) emotionally connected to the area of interest, thereby encouraging greater activity, compared to extrinsic motivation [9]. Emotions represent an important factor in learning, as they influence attention, motivation, memory, persistence, and an individual's engagement in the learning process. Positive emotional states, such as interest, curiosity, and a sense of competence, can promote active learning, whereas prolonged negative emotions, such as fear, anxiety, or a sense of failure, can reduce learning effectiveness and willingness to participate [10]. Social and emotional competences represent an important aspect of young people's development. These include recognizing and regulating one's own emotions, understanding the emotions of others, establishing quality relationships, making responsible decisions, and effectively coping with challenges. Research shows that well-developed social and emotional competences are associated with higher academic achievement, better adjustment to the school environment, greater learning motivation, and more successful functioning in an individual's later life [11], [12]. Research shows that the systematic development of social and emotional competences contributes not only to better academic achievement but also to greater success in further education, career development, and active participation in society [9], [11].

Also important is the attitude towards knowledge, which is formed through communication among members of a society. An individual's attitude towards knowledge is influenced by beliefs about knowledge within the broader society, which assigns a certain value to knowledge and

education [9], for example, through the school itself and the individual's reference groups. Although peer influence on students becomes stronger during adolescence, parental support remains an important component. Parental support can be defined as emotional support (e.g., encouragement, praise), support in the form of a role model (e.g., parents' active lifestyle), and material support (e.g., financial support, transportation) [13].

Academic achievement therefore depends on various factors that significantly influence the quality of a young person's engagement in the learning process, their persistence in overcoming learning challenges, and their achievement of learning goals.

1.2 Extracurricular activities

Extracurricular activities are organized interest-based, cultural, sports, artistic, research, and other leisure activities in which students participate outside the compulsory school curriculum. These complement formal education and provide opportunities for the development of students' interests and potential [1]. Extracurricular activities represent an important environment for the development of adolescents' social and emotional competences. Through participation in these activities, students learn cooperation, communication, responsibility, goal setting, and persistence in achieving results [14]. Participation in extracurricular activities plays an important role in adolescent development, as it enables students to acquire new knowledge and skills, develop social relationships, build a positive self-concept, and strengthen responsibility, persistence, and self-discipline. In their review, [1] found that adolescents' participation in organized activities is associated with more favourable developmental outcomes, including better school adjustment, greater psychological adjustment, and positive academic outcomes. It is particularly important that these activities provide experiences of success and a sense of group belonging, which can strengthen intrinsic motivation and foster a positive attitude towards learning and personal development.

When choosing activities, it is important to consider children's interests and developmental needs, since an excessive number of commitments can lead to overload, reduced motivation, and insufficient time for rest and unstructured leisure [2]. It is also important that children retain a certain degree of autonomy in choosing activities, since excessive parental direction may reduce their intrinsic motivation. The social aspect is another important motivation for participating in extracurricular activities, as children often take part for social interaction, a sense of group belonging, and friendship [15].

From an educational perspective, extracurricular activities are therefore not merely a means of spending leisure time in a meaningful way but also represent an important factor supporting the development of students' cognitive, social, emotional, and personal characteristics.

2. METHODOLOGY

2.1. Aims and Hypotheses

The aim of the study was to examine whether there was an association between participation in extracurricular activities, or the type of extracurricular activity, and students' academic achievement. We formulated the following hypotheses: (1) There is an association between

participation in extracurricular activities and academic achievement; and (2) There is an association between the type of extracurricular activity and academic achievement.

2.2. Description of the Research Sample

The convenience sample included students from the first to the fourth year of secondary schools in Celje. A total of 132 students completed the questionnaire adequately, the majority of whom were female (N=99; 75%), while one quarter were male (N=33; 25%). Thirty-four students (26%) were enrolled in the first year, 27 (20%) in the second year, 26 (20%) in the third year, and 45 (34%) in the fourth year. Most students who completed the questionnaire had achieved an excellent (43.9%) or very good (40.1%) academic performance in the previous school year. This group was followed by students with good (15.2%) and satisfactory (0.8%) academic performance. It should be noted that students who were in their first year of secondary school at the time of the study reported their academic performance from the ninth grade of primary school. Since students in primary school do not receive a formally defined overall academic performance grade, we assumed that they reported their performance based on their average grades and were therefore still providing comparable responses.

2.3. Description of the Measurement Instruments

The questionnaire consisted of 12 open- and closed-ended questions, which were developed based on the theoretical framework. In the introduction, all respondents were informed that participation in the study was voluntary, that the results would remain anonymous, that they could finish answering whenever they wanted, and that only aggregated results would be used for research purposes.

2.4. Description of the Data Collection Procedure

The data were collected using an online questionnaire (1KA). To assist with data collection, we asked the author's classmates and friends to distribute the link to the questionnaire among other students attending secondary schools in Celje. Completing the questionnaire took approximately 2 minutes. The survey was active from December 11, 2025, to March 11, 2026.

3. RESULTS AND INTERPRETATION

First, we asked the students whether they participated in extracurricular activities. The majority, 74.2% (N=98), participated in extracurricular activities, while just over one quarter (N=34; 25.8%) did not participate in any extracurricular activity. These results are consistent with some previous research findings [16].

Next, we calculated whether there was an association between participation in extracurricular activities and students' academic achievement in the previous school year (Table 1).

Table 1: Participation in extracurricular activities and academic achievement

		What was your academic achievement in the previous school year?				Total
		Passing (2)	Good (3)	Very good (4)	Excellent (5)	
Do you participate in extracurricular activities?	YES (n, f %)	0 (0.0 %)	10 (7.6 %)	43 (32.6 %)	45 (34.1 %)	98 (74.2 %)
	NO (n, f %)	1 (0.8 %)	10 (7.6 %)	10 (7.6 %)	13 (9.8 %)	34 (25.8 %)
Total		1 (0.8 %)	20 (15.2 %)	53 (40.2 %)	58 (43.9 %)	132 (100 %)

Among students who participated in extracurricular activities, 34.1% had excellent academic achievement, 32.6% had very good academic achievement, and 7.6% had good academic achievement. Among students who did not participate in extracurricular activities, 9.8% had excellent academic achievement, 7.6% had very good academic achievement, and 7.6% had good academic achievement; one student (0.8%) reported satisfactory academic achievement in the previous school year. The proportion of students with higher academic achievement was greater among those who participated in extracurricular activities.

A statistically significant association was found between participation in extracurricular activities and students' academic achievement (Pearson's $\chi^2 (3) = 10.683$; $p = 0.014$; $N = 132$). Since two cells (25%) had an expected frequency of less than 5, statistical significance was additionally confirmed using a Monte Carlo approximation ($p = 0.010$). The Cramér's V value was 0.284 ($p = 0.014$), indicating a weak to moderate association between participation in extracurricular activities and academic achievement. Students who participated in extracurricular activities had, on average, higher academic achievement. However, based on the χ^2 test, it cannot be concluded that participation in extracurricular activities directly causes higher academic achievement. The observed association may also be influenced by other factors, such as motivation, family environment, socioeconomic status, study habits, or individual abilities. This is consistent with the theory of learning factors, which emphasizes the interplay of psychological, social, and physiological factors [5], [9].

Next, we examined whether there was an association between participation in specific extracurricular activities and students' academic achievement.

Students who reported participating in extracurricular activities were then asked which types of extracurricular activities they participated in. Some students indicated that they participated in more than one activity, most commonly sports and music combined ($n = 143$).

Among the students who participated in extracurricular activities, the largest proportion reported participating in sports activities (69%), followed by music activities (40%). A considerably smaller proportion reported participating in firefighting training (15%), scouting (4%), reading club (3%), and activities related to handicrafts (2%). Under the "Other" category, students reported participating in Scouts, employment, oratory programs, theatre, and academic competitions.

Next, we conducted a more detailed analysis to determine whether participation in specific types of extracurricular activities was associated with academic achievement. Given the frequency of responses and the extent to which they have been studied theoretically, we performed more detailed analyses for the two types of extracurricular activities: sports and music. Sport has a particularly important role in adolescents' lives, influencing their physical and personal development. Through sports, adolescents learn to direct their attention, engage in positive self-talk, and remain calm, to master proper breathing, and to set goals, all of which can contribute to better academic performance [17]. Music promotes positive values and provides opportunities to learn to express emotions, convey moods, communicate, and develop auditory skills. It also plays an important role in the cultural development of young people. Singing, for example, contributes to maintaining health, strengthens the muscles of the chest, supports lung function, helps reduce stuttering, and improves pronunciation [15].

The analysis (Table 2) included 94 students who reported at least one extracurricular activity in which they participated. Given the low expected frequencies, statistical significance was also assessed using a Monte Carlo approximation.

Table 2: Association between the type of extracurricular activity and academic achievement

Type of extracurricular activity	n	χ^2 (df)	P (Pearson)	p (Monte Carlo)	Cramér's V
Sports	94	1.130 (2)	0.568	0.633	0.110
Music	94	2.080 (2)	0.353	0.374	0.149

Analysis of the association between individual types of extracurricular activities and academic achievement did not reveal any statistically significant relationships. Among students who participated in sports, the association with academic achievement was not statistically significant (χ^2 (2) = 1.130; p = 0.568; Cramér's V = 0.110). This result was also confirmed by the Monte Carlo approximation (p = 0.633). Likewise, no statistically significant association was found between participation in music activities and academic achievement (χ^2 (2) = 2.080; p = 0.353; Cramér's V = 0.149), which was also confirmed by the Monte Carlo approximation (p = 0.374). The strength of the associations was low for both activities. Based on these results, it cannot be concluded that participation in a specific extracurricular activity (sports or music) is associated with academic achievement in the given sample.

4. CONCLUSION

In this paper, we investigated the association between participation in extracurricular activities and student academic achievement. The results showed that overall participation in extracurricular activities was associated with student academic achievement. However, no such association was found when individual types of activities were analysed. Neither participation in sports nor participation in music was statistically significantly associated with academic achievement in this sample. This suggests that the potential association between extracurricular activities and academic achievement may not necessarily depend on the specific type of activity but may be related to other characteristics of participation in organized activities, such as the regularity of

participation, intensity, duration, motivation for participation, and the quality of the social and supportive environment.

When interpreting the results, it is also important to consider the sample size and the fact that students could select multiple types of activities. Consequently, the individual groups were relatively small, which may reduce the statistical power of the analyses. In addition, academic achievement is influenced by numerous other factors, such as cognitive ability, learning motivation, self-regulated learning, family environment, and socioeconomic circumstances. Therefore, the observed association between overall participation in extracurricular activities and academic achievement cannot be interpreted as evidence that extracurricular activities themselves cause better academic achievement. Furthermore, the sample was not representative, since it was a convenience sample and included only students from secondary schools in Celje; therefore, the findings cannot be generalized to the entire population.

The findings are consistent with the broader understanding of extracurricular activities as one among the factors shaping adolescents' developmental environment. Researchers [1] emphasize that the effects of extracurricular activities are not uniform but depend on various factors, such as the way in which the activities are conducted, the way adolescents participate in them, the intensity of their participation, the number of activities they attend, and their social environment, all of which would warrant more detailed investigation.

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