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The Role of Physical Activity, Sensation Seeking, and Boredom in Shaping Adolescent Learning Styles

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Abstract

Objectives. This study aimed to examine the relationship between physical activity, boredom proneness, sensation seeking, and learning styles among high school students in the Czech Republic.

Materials and Methods. The study involved 476 students aged 15–18 years (292 girls and 184 boys), attending general and sports grammar schools. Standardized instruments were used to measure boredom (Boredom Proneness Scale), sensation seeking (Sensation Seeking Scale V), learning styles (Learning Styles Inventory), and physical activity levels (International Physical Activity Questionnaire). The study employed non-parametric tests, correlation analysis, and regression modeling.

Results. The results indicated that older students reported lower physical activity, higher boredom proneness, and reduced intrinsic motivation. Boys in general grammar schools showed higher physical activity and a preference for silence and movement during learning, but lower persistence compared to their peers. Girls in general grammar schools expressed a stronger tendency to seek new sensory experiences. Weak associations were observed between sensation seeking, persistence, and social learning preferences. Regression models moderately predicted student age and gender based on psychological and behavioral variables.

Conclusions. The findings demonstrated that factors such as age, gender, and physical activity significantly influence adolescent learning preferences and motivation. Implementing differentiated teaching strategies and experiential, movement-based learning may enhance engagement, particularly in students prone to boredom or high in sensation seeking.

Keywords: secondary education, psychological factors, school engagement, student's well-being, individual differences.

Introduction

The experience of boredom, the tendency to seek extraordinary sensations, and students' levels of physical activity interact and shape learning preferences and motivation. While boredom is often seen as negative, it may also encourage students to seek new experiences and adapt their learning approaches. Sensation seeking — a preference for novelty and intensity — also influences how students engage with educational tasks.

By examining these psychological factors alongside learning styles and physical activity, this study aims to provide insights to help educators and policymakers design more effective learning environments for secondary-level students.

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Boredom, its manifestations, functions and relation to the educational process

Recent research highlights the impact of school boredom on student well-being. A study on 2,331 California students introduces the School Boredom Mindset (SBM), identifying high-risk students with negative school attitudes and lower well-being (Furlong et al., 2021).

Boredom is primarily described as a state in which an individual desires to do something other than their current activity (Csikszentmihalyi, 2000; Fahlman et al., 2013; Mikulas & Vodanovich, 1993; Todman, 2003; Van Tilburg & Igou, 2012). It is an unpleasant experience that represents a failure to interact with the immediate environment, regardless of the individual's motivation to make the interaction successful (Danckert & Merrifield, 2018; Eastwood et al., 2012). Students of any gender may experience difficulty concentrating and sustaining attention (Eastwood et al., 2012; Harris, 2000; Hartl et al., 2010; Wallace et al., 2003), which can negatively affect the educational process.

A significant number of authors point to the potential positives of experiencing states of boredom. For example through its unintentional scanning may lead to creativity and problem solving (Belton & Priyadharshini, 2007). It allows for contemplation, daydreaming and imagining alternatives, and can be an important part of creative work (Gasper & Middlewood, 2014; Harris, 2000; Mann & Cadman, 2014). On the other hand, Elpidorou (2018) points out that boredom as a trait does not predict creativity. Overall, boredom can promote the restoration of the perceived meaningfulness of activities aligned with one's interests (Bench & Lench, 2013; Elpidorou, 2014, 2015; Smith et al., 2009; Van Tilburg & Igou, 2011, 2012). This insight may help address motivational processes in schooling for students who experience boredom.

Sensation seeking tendency, physical activity and sport as a part of the student's experience

The experience of boredom is linked to the sensation seeking tendency (SST). In this study, SST refers to a preference for new, powerful, and exceptional experiences, as first described by Zuckerman (Zuckerman, 1978). SST is influenced by genetic and external factors (Zuckerman, 1994) and is highly related to risk-taking (Zuckerman, 2001). Individuals with high SST have greater central nervous system arousal, and this tendency typically peaks during adolescence (Neary and Zuckerman, 1976, Zuckerman, 1994). Although research has shown that, on average, male respondents report higher SST scores (Psychology Today Staff, 2004; Zuckerman, 2005), such findings should be interpreted as statistical tendencies rather than categorical distinctions, considering individual and contextual variability. Heredity explains 34–69% of SST variation (Eysenck, 1983; Fulker et al., 1980; Hur & Bouchard, Jr., 1997; Koopmans et al., 1995), but environmental influences, such as family dynamics, socioeconomic status, and cognitive ability, also contribute (Zuckerman, 1994; Feij & Taris, 2010; Henry & Moffitt, 1997). SST is linked to openness, aversion to structured situations, adventure seeking, proneness to boredom, and lower inhibitions (Galloway & Lopez, 1999). High SST is associated with impulsivity, antisocial behavior (Zuckerman & Link, 1968), social dominance (Zuckerman, 2005), "grit" (Muris, 2009), and possible delinquency during adolescence (Harden et al., 2012). These traits can have both positive (e.g. rescue workers) and negative (e.g. addiction) effects and they may influence students' engagement in learning.

In terms of SST and physical activity (PA) or sporting activities, research is inconsistent. Often, SST is linked to risky or extreme sports (Zuckerman, 1979). Potgieter and Bisschoff (1990) reported positive correlations with high/moderate-risk sports but negative with low-risk sports. Contact sport athletes show higher SST than those in non-contact sports (Schroth, 1995). In the Czech Republic, Kuban (2006) found slightly higher SST among sports students than non-sports students, though not statistically significant. Similarly, Franken et al. (Franken et al., 1994) and Jack and Ronan (Jack & Ronan, 1998) also found SST to be related to general sports involvement.

Research on SST in the educational domain remains limited. Bösselmann et al. (2021) demonstrated that adolescents with higher levels of physical activity reported less boredom and lower fear of COVID-19 during the pandemic, suggesting that physical engagement may buffer against negative emotional states in school-age populations.

Educational process from the perspective of experiencing boredom and sensation seeking tendency

Boredom and sensation seeking should be viewed as complex psychological phenomena that demand a nuanced, well-informed educational approach. Reducing them to simplistic explanations overlooks their significant impact on learning and creativity. In schools, boredom often stems from unengaging content, monotonous instruction, rigid structures, or teaching perceived as irrelevant. Students may respond by daydreaming, becoming distracted, disengaging, or even skipping school (Průcha et al., 2009). At the same time, boredom can prompt reflection and motivate students to seek meaningful and stimulating activities (Bench & Lench, 2013; Elpidorou, 2015; Smith et al., 2009; Van Tilburg & Igou, 2011, 2012). Negative emotions and experiences are a natural part of learning. Although unpleasant, they can be instructive and contribute to personal growth. Even within positive, supportive learning environments, such emotions have an important role (Baumeister et al., 2001; Diener & Seligman, 2002). Acknowledging and constructively addressing these experiences may lead to improvements in student motivation, as well as in teaching practices, learning environments, and curricular design.

Learning styles, experiencing boredom, sensation seeking tendency in sport oriented grammar school students

When discussing boredom and SST in the educational process, learning style (LS) is one of the important variables. For this research, Dunn's (Dunn, 2000) concept of LS was chosen, which focuses on preferences for certain types of social interaction and learning environments, less on information processing, and least on personality traits. It describes LS in relation to multiple variables, helping to retain knowledge that might otherwise be lost through overgeneralization. Dunn et al. (Dunn, Rita et al., 1989) define LS as biologically and developmentally determined characteristics that influence student learning. Each learner has an LS, and it is important to identify individual strengths and weaknesses in this area. They relate to 21 factors that influence the learning process itself and are divided into four groups: environmental influences, emotionality, social needs and physical needs (Dunn, Rita et al., 1989).

To examine the relationship between these variables, this study surveyed sports and general grammar school students. Previous research shows that individuals in sports tend to have higher SST (Franken et al., 1994; Jack & Ronan, 1998; Kuban, 2006). Differences in preferred LS have been identified between students in general grammar schools and those in sports-oriented schools (e.g. sports students are less persistent) (Culková, 2017). Girls in sports-focused programs tend to prefer learning in the morning, whereas those in general programs prefer evenings; boys in sports classes also differ in their preferences (e.g., they prefer evenings) (Culková, 2013). A statistically significant correlation between SST and the preference for experiential learning was observed. SST is also linked to boredom, and

gender-related differences are frequently observed (Culková, 2013; Zuckerman, 2005).

For grammar school students, learning styles are typically developed and can be reliably assessed, offering value to both students and teachers. Recognizing sensation seeking and boredom proneness helps adapt learning strategies, as these factors influence learning behavior and attitudes toward lifelong education. This study focuses on Czech students from both sports-oriented and general grammar schools.

Materials and Methods

The research is based on a non-interventional questionnaire survey, part of the research design is quantitative, part comparative, part correlational and part exploratory.

Study Participants

The sample consisted of 476 students (292 girls and 184 boys) from general and sports-oriented four-year grammar schools in the Czech Republic. These students were in grades 1 to 3, representing typical Czech secondary education. Specifically, 54 female and 107 male students attended the sports-oriented grammar school, and 130 female and 185 male students attended the general grammar school. All participants completed the survey, resulting in a 100% response rate.

Study Organization

Questionnaires were distributed in hard copy. Data were transcribed into a database, and scores were calculated algorithmically (summative for scales and subscales). The standardized questionnaire used was the Sensation Seeking Scale form V (SSS-V), standardized in Czech by Kuban (2006) from Zuckerman's original version (1978). The total score reflects the tendency to seek new and strong experiences (Kuban, 2006). The second questionnaire used was the Boredom Proneness Scale (BPS), which measures trait boredom and assesses how connected individuals feel to their environment and their ability to adapt (Farmer & Sundberg, 1986). Higher scores indicate a lower tendency to experience boredom. The third questionnaire is Learning Style Inventory (LSI) questionnaire (Dunn, Rita et al., 1989), also a standardized and adapted to Czech by Pýchová, Kantorová and Mareš (Mareš & Skalská, 1994). The fourth questionnaire is the International Physical Activity Questionnaire (IPAQ) (Craig et al., 2003; Hagströmer et al., 2008) measuring self-reported PA in five domains: work/study, transport, housework, recreation/sport, and sitting time.

Statistical Analysis

Data processing was performed in SPSS v24 and JASP 0.16.3.0. Descriptive statistics and error detection were calculated first. The normality of the data distribution was assessed using the Shapiro-Wilk test, known for its rigor. Results (S-W = 0.885–0.972, $p \leq 0.03$) indicated non-normal distribution across all scales, so non-parametric methods were used. Specific statistical methods are reported alongside the results. The research followed the ethical principles of the Declaration of Helsinki (2013). It was approved by the ethics committee of the affiliated university (approval number: 9/2024). Informed consent was obtained from all participants, and participation was voluntary and anonymous.

Results

The study results should be presented in tables and described in a logical sequence.

School-type and age-based differences

Differences between school type - general versus sports grammar schools, were tested and that there is no statistically significant difference between the students of the two types of grammar schools in any of the observed variables.

The method of calculating the correlation coefficient was used to verify the influence of age (represented by the year of study) on the variables studied. Students from 1st to 3rd year were monitored. Results shown in Table 1.

Table 1. Grade associations: Spearman correlation (n = 476)

Variable	Rho	p
IPAQ	-0.208	< 0.001
BPS_Summa	-0.112	0.01
SSS_Total	-0.153	< 0.001
SSS_TAS	-0.065	0.16
SSS_ES	-0.121	0.01
SSS_Dis	-0.048	0.29
SSS_BS	-0.098	0.03
LSI_Int.Motivation	-0.163	< 0.001
LSI_Persistence	0.054	0.24
LSI_FoodDrinkCons.	-0.209	< 0.001
LSI_Exper.Learning	-0.097	0.03
LSI_SilencePreference	0.076	0.10
LSI_TactileLearning	-0.293	< 0.001
LSI_LocationChange	0.010	0.83
LSI_LearningW.Friends	0.052	0.26

Note. Conditioned on variables: Gender (man), Group (general x sport).

Most variables show a significant correlation with age (year of study), always in a negative direction, i.e., the older the students, the less PA, SST (specifically ES and BS), LSI intrinsic motivation, consumption while learning, experiential learning, and tactile learning.

The Mann-Whitney test was calculated. The value of W is the sum of the rank of the first sample. The effect size is measured by the rank-biserial correlation (R-B C), which indicates the magnitude and direction of the correlation (a positive value means that the first sample tends to be larger and vice versa). Significance is in the p column ($p \leq 0.05$ indicates a statistically significant difference between groups).

Table 2. Gender differences: M-W test (n = 476, ng = 292 girls, nb = 184 boys)

Test/scale	W	p	R-B C	W general	p general	R-B C general	W sport	p Sport	R-B C sport
IPAQ	22391.5	0.002	-0.17	9040.0	< .001	-0.248	2855.5	0.91	-0.01
BPS_Summa	29141.5	0.12	0.09	13087.5	0.18	0.088	3107.5	0.43	0.08
SSS_Total	28544.5	0.25	0.06	13572.0	0.05	0.129	2674.0	0.44	-0.07
SSS_TAS	26646.5	0.88	-0.01	12435.0	0.60	0.034	2622.5	0.33	-0.09
SSS_ES	30599.0	0.01	0.14	14021.5	0.01	0.166	3129.5	0.38	0.08
SSS_Dis	26337.5	0.72	-0.02	12377.5	0.66	0.029	2552.5	0.22	-0.12
SSS_BS	28143.5	0.38	0.05	12904.5	0.26	0.073	2883.0	0.98	-0.00
BPS_Boredom	25865.5	0.49	-0.04	12217.5	0.81	0.016	2670.5	0.43	-0.08
LSI_IntrinsicMotivation	26582.0	0.84	-0.01	11546.5	0.54	-0.040	3045.5	0.57	0.05
LSI_Persistence	24191.5	0.06	-0.10	10943.5	0.16	-0.090	2553.0	0.21	-0.12
LSI_FoodDrinkConsumption	29272.0	0.01	0.09	12717.5	0.38	0.058	3341.0	0.10	0.16
LSI_ExperientialLearning	28744.5	0.20	0.07	12959.0	0.24	0.078	3043.0	0.58	0.05
LSI_SilencePreference	23862.0	0.04	-0.11	10581.0	0.06	-0.120	2613.0	0.31	-0.10
LSI_TactileLearning	26055.5	0.59	-0.03	11461.0	0.48	-0.047	2914.5	0.93	0.01
LSI_LocationChange	23469.5	0.02	-0.13	10537.5	0.06	-0.124	2501.5	0.16	-0.13
LSI_LearningWithFriends	27135.0	0.85	0.01	12495.0	0.54	0.039	2736.0	0.57	-0.05

Note: R-B C = rank biserial correlation

The results reveal significant gender differences in several variables: boys report higher physical activity (IPAQ), girls score higher in sensation seeking – experience seeking (SST-ES), while boys show a stronger preference for silence and more frequent need to change location while learning. Male students also scored higher in LSI Persistence, indicating lower persistence, though this was at the borderline of significance. These differences appear primarily among students from general grammar schools. In contrast, no significant gender differences were observed among students from sports-oriented grammar schools.

Spearman's rank correlation was used to assess the strength and direction of relationships between variables in a non-normally distributed dataset, with effect sizes interpreted using Cohen's criteria. The correlation matrix included total and subscale scores from the SSS, LSI, IPAQ, and BPS. No significant associations were found between IPAQ or BPS and the other variables.

Statistically significant associations between SSS and LSI variables were found in two cases: SSS_Dis with LSI_Persistence (rho = 0.103, p = 0.025) and LSI_Learning with friends with LSI_Persistence (rho = –0.090, p = 0.048). These findings suggest that both adherence to social norms and learning in a peer context may support greater persistence. However, the correlation coefficients indicate only weak associations.

Prediction modeling

When we attempted to predict grammar school affiliation by major (general versus sports), logistic regression always excluded all observed variables.

Predicting gender yielded more interesting results. We used a logistic regression model calculation in which gender was predicted and IPAQ, BPS, SSS subscales, and each LSI type were entered as covariates. The resulting model shows a poor model fit of the characteristics (AIC = 608, BIC = 642, ΔX^2= 1.116, p < 0.204), with a model learning rate of approximately 10 % (McFadden R^2 = 0.067, Nagelke R^2 = 0.116). As expected (see t-test results above), the computational algorithm included IPAQ as the strongest predictor, SSS_ES and LSI_ Persistence and LSI_Location change; LSI_Food drink consumption, LSI_Intrinsic motivation and BPS were also included in the model. The values of the variables in the model suggest that if the results show a combination of increased SSS_ES, BPS, LSI_ Food drink consumption and decreased IPAQ, LSI_ Location change, LSI_ Persistence and LSI_Intrinsic motivation, there is an increased likelihood of being a female student.

Table 3. Prediction of gender: logistic regression (n = 476)

Parameter	Estimate	Standard Error	Z	Wald Statistic	p
(Intercept)	-2.116	1.236	-1.713	2.934	0.087
IPAQ	0.000	0.000	3.164	10.011	0.002
SSS_ES	-0.156	0.057	-2.741	7.514	0.006
BPS_Summa	-0.054	0.025	-2.194	4.813	0.028
LSI_LoationChange	0.149	0.058	2.582	6.668	0.010
LSI_FoodDrinkCons	-0.083	0.030	-2.741	7.511	0.006
LSI_Persitence	0.265	0.106	2.488	6.188	0.013
LSI_Int.Motivation	0.176	0.071	2.494	6.221	0.013

Due to the notable behavior of the variable grade (year of study), we created a linear regression model to predict it using IPAQ, BPS, SSS subscales, and various LSI types as covariates. The model was statistically significant but showed

Table 4. Prediction of grade: linear regression (n = 476)

Model / Items	Unstandard	SE	Standard	T	P	Lower	Upper
(Intercept)	2.953	0.220		13.451	< 0.001	2.522	3.385
IPAQ	-2.164^{e-5}	4.398^{e-6}	-0.205	-4.921	< 0.001	-3.029^{e-5}	-1.300^{e-5}
BPS_Summa	-0.02	0.01	-0.10	-2.37	0.02	-0.04	-0.00
SSS_ES	-0.07	0.02	-0.14	-3.38	< 0.001	-0.10	-0.03
LSI_Persistence	0.10	0.03	0.12	2.90	0.00	0.03	0.16
LSI_FoodDrinkCons.	-0.03	0.01	-0.13	-2.85	0.01	-0.05	-0.01
LSI_SilencePrefer.	0.08	0.03	0.14	3.06	0.00	0.03	0.13
LSI_TactileLearning	-0.06	0.01	-0.26	-5.63	< 0.001	-0.09	-0.04
LSI_Learn.W.Friends	0.06	0.03	0.08	1.90	0.06	-0.00	0.11

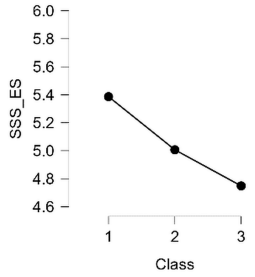

Fig. 1. Grade and SSS_ES

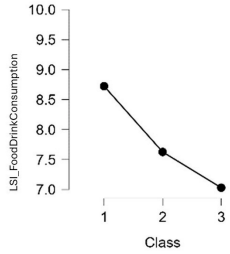

Fig. 2. Grade and LSI_Food drink consumption

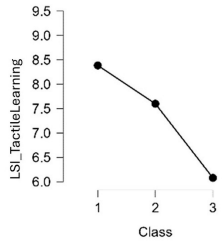

Fig. 3. Grade and LSI_Tactile learning

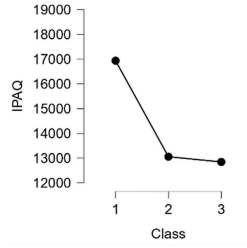

Fig. 4. Grade and IPAQ

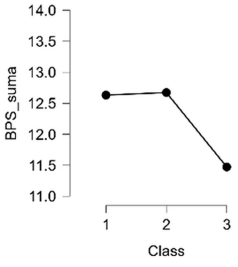

Fig. 5. Grade and BPS

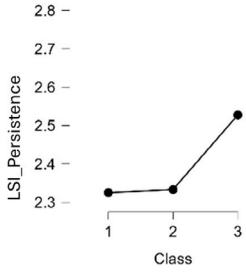

Fig. 6. Grade and LSI_ Persistence

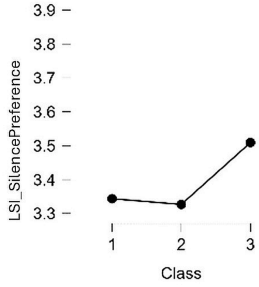

Fig. 7. Grade and LSI_Silence preference

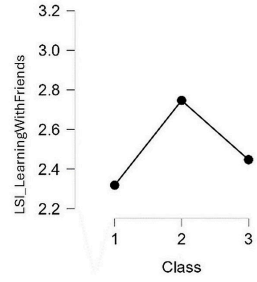

Fig. 8. Grade and LSI_ Learning with friends

weak fit (R = 0.444, R^2 = 0.197, adj. R^2 = 0.183, RMSE = 0.749), explaining nearly 20% of variance. Predictors included IPAQ, BPS, SSS_ES, LSI_Food and Drink Consumption, LSI_Tactile Learning, as well as LSI_Persistence, LSI_Silence Preference, and LSI_Learning with Friends. Despite modest model fit, the identified relationships were meaningful and worth presenting.

The table shows that higher grade levels (i.e., older students) are predicted by lower scores in IPAQ, BPS, SSS_ES, LSI_Food and Drink Consumption, and LSI_Tactile Learning, along with higher scores in LSI_Persistence (indicating lower persistence), LSI_Silence Preference, and LSI_Learning with Friends.

The graphs show an example of how SSS_ES, LSI_Food drink consumption, and LSI_Tactile learning decrease with grade.

Discussion

The expected close association between BPS and SSS-V was not confirmed. Similarly, no significant differences were found in SSS-V scores between sports and general grammar school students, consistent with Bösselmann et al. (2021). However, some variations emerged, discussed below:

Higher levels of physical activity (IPAQ) correlated with lower boredom proneness (BPS) and higher thrill seeking (SSS_ES), supporting previous findings linking PA to lower boredom and negative emotional states (Bösselmann et al., 2021, Furlong et. al. 2021). As PA tends to decline with age, this may increase the risk of boredom and reduced motivation. Schools should thus prioritize maintaining PA to counteract boredom and sustain motivation.

The tendency to seek new sensory experiences (SSS_ES) was more common among female students, while male students boys showed lower persistence and a higher preference for silence and movement. A higher tendency towards boredom (BPS) was linked to lower motivation and a preference for experiential learning (LSI_Experiential Learning), consistent with the idea that boredom can motivate students to seek novelty (Elpidorou, 2014, 2015). This aligns with Culková's (2015), recommendation to incorporate experiential learning opportunities, particularly for students high in SST.

With age, PA, intrinsic motivation, and preference for experiential and tactile learning (LSI_Tactile Learning) decreased. Older students reported higher boredom and preferred quiet or social learning environments, suggesting a shift from sensory-based to more traditional strategies (Elpidorou, 2015). Tailoring teaching methods to age and individual needs is therefore crucial (Culková, 2017).

Male students in general grammar schools showed higher PA but lower persistence, while female students showed a higher preference for sensory experiences (SSS_ES) and greater persistence. This aligns with previous research indicating sex-based differences in boredom proneness and learning styles (Bench & Lench, 2013). Addressing both sex and age differences in teaching methods may enhance motivation and engagement.

The study also found that learning with friends was linked to greater persistence, highlighting the importance of social connections in motivation (Bench & Lench, 2013). Social ties can enhance the meaningfulness of learning, supporting engagement and reducing boredom.

Overall, this study highlights the interplay between physical activity, boredom, and sensation seeking in shaping students' learning. The absence of significant differences between types of grammar schools suggests SST is influenced more by individual factors (Elpidorou, 2015). The link between physical activity and lower boredom (Bösselmann et al., 2021; Furlong et al., 2021) underscores the value of promoting physical activity to enhance engagement.

The relationship between SST, boredom, and learning preferences aligns with theories that see boredom as a motivator for seeking novelty and meaningful experiences (Elpidorou, 2014, 2015; Eastwood et al., 2012). Observed variations across age and gender groups highlight the need for teaching approaches that consider individual and developmental differences (Culková, 2015, 2017). Together, these findings stress the importance of fostering engaging learning environments that address boredom and SST to support students' educational experiences.

Limitations and Practical Directions

This study has limitations. It relies on self-reports, which may introduce bias, and its cross-sectional design limits causal conclusions. The sample, drawn from Czech grammar schools, may restrict generalizability. Future research should use longitudinal designs, include diverse educational and cultural contexts, and integrate qualitative data to better understand how students experience boredom and sensation seeking in learning.

Conclusions

This study provides a psychological perspective on how physical activity, boredom, and sensation seeking influence learning styles among Czech high school students. The findings indicate that gender, age, and physical activity significantly affect motivation and engagement. Older students tend to report lower physical activity, reduced intrinsic motivation, and greater boredom proneness, highlighting the need for age-specific strategies to sustain engagement. Students with high sensation seeking benefit from experiential and movement-based learning, while differentiated teaching that respects individual preferences can enhance learning outcomes. Integrating physical activity into academic settings, fostering collaboration among educators, and addressing socio-psychological factors can support student well-being and motivation. Future research should explore culturally responsive, tailored educational strategies that address boredom, support social integration, and promote lasting academic engagement.

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Conflict of Interest

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Роль фізичної активності, пошуку відчуттів та нудьги у формуванні стилів навчання підлітків

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Авторський вклад: A – дизайн дослідження; B – збір даних; C – статаналіз; D – підготовка рукопису; E – збір коштів

Реферат. Стаття: 9 с., 4 табл., 8 рис., 61 джерело.

Мета дослідження. Мета цього дослідження полягала у вивченні взаємозв'язку між фізичною активністю, схильністю до нудьги, пошуком відчуттів та стилями навчання серед учнів старших класів у Чеській Республіці.

Матеріали та методи. У дослідженні взяли участь 476 учнів віком 15–18 років (292 дівчини та 184 хлопці), які навчаються в загальноосвітніх та спортивних гімназіях. Для визначення рівня нудьги («Шкала схильності до нудьги»), пошуку відчуттів («Шкала пошуку відчуттів V»), стилів навчання («Тест на визначення стилів навчання») та рівнів фізичної активності («Міжнародний опитувальник фізичної активності») використовувалися стандартизовані інструменти. У дослідженні застосовувались непараметричні тести, кореляційний аналіз та регресійне моделювання.

Результати. Результати засвідчили, що учні старшого віку відзначали нижчий рівень фізичної активності, більшу схильність до нудьги та знижену внутрішню мотивацію. Хлопці в загальноосвітніх гімназіях продемонстрували вищий рівень фізичної активності та надання переваги тиші та рухливості під час навчання, але нижчу наполегливість у порівнянні зі своїми однолітками. Дівчата в загальноосвітніх гімназіях виявляли сильнішу схильність до пошуку нових сенсорних досвідів. Слабкі взаємозв'язки спостерігалися між пошуком відчуттів, наполегливістю та перевагами соціального навчання. Регресійні моделі помірно передбачали вік та стать учнів на основі психологічних та поведінкових змінних.

Висновки. Результати дослідження показали, що такі чинники, як вік, стать та фізична активність, суттєво впливають на навчальні уподобання та мотивацію підлітків. Впровадження диференційованих стратегій викладання та емпіричного навчання, заснованого на руховій активності, сприятиме підвищенню залученості, особливо в учнів, схильних до нудьги або пошуку відчуттів.

Ключові слова: середня освіта, психологічні фактори, залученість до шкільного середовища, благополуччя учнів, індивідуальні відмінності.

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