

SOURCES OF HIGH SCHOOL STUDENTS' ANXIETY

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Cite:

Idézés:



EP / EE:

Reviewers:

Lektorok:

Sáfrány, Judit, & Mező, Ferenc (2026). Sources of High School Students' Anxiety. *Különleges Bánásmód Interdiszciplináris folyóirat [Special Treatment Interdisciplinary Journal]*, 12(1), 51–64. DOI <https://doi.org/10.18458/KB.2026.1.51>

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Ethics Permission / Etikai engedély: KB/2026/0014

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Abstract

Anxiety Related To the school environment adversely affects secondary school students in multiple respects. Sources of students' anxiety may include social or peer situations, academic activities, various emotionally based experiences, life outside school, interactions with teachers, the broader educational context, and the experience of aggression. The aim of this study was to explore whether students' gender and grade level have an impact on trait anxiety, on the perception of anxiety sources, and on the anxiety management strategies they are familiar with or apply. The research sample comprised 638 secondary school students aged between 14 and 20 years. The methods applied included the STAI-Trait subscale (Trait Anxiety Inventory), a questionnaire assessing students' known and used anxiety management strategies, and the *Sources of Students' Anxiety* (SZF-T) Questionnaire (available from the Author). According to the findings, gender had a significant influence on students' sources of anxiety, trait anxiety levels, and their knowledge and use of anxiety management strategies. Grade level, however, showed no relationship with trait anxiety or with the number of strategies known or used, and only a limited association with anxiety sources. Based on participants' responses, the most frequent and intense sources of anxiety were lack of free time, poor grades, and academic assessments (tests, oral recitations, exams). The investigation of anxiety and the identification of students' anxiety sources constitute a relevant area of research in relation to the school adjustment and broader life success of the younger generation. Future research should be extended to include students from other types of educational institutions as well.

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Keywords: anxiety; anxiety sources; school environment; secondary school students; anxiety management strategies

Discipline: psychology

Absztrakt

TANULÓI SZORONGÁSFORRÁSOK

Az iskolai környezettel összefüggő szorongás több aspektusból hátrányosan érinti a gimnazista populációt. A tanulók szorongásának forrása lehet a szociális vagy kortárs helyzet, a tanulás, a különféle érzelmi alapú élmények, az iskolán kívüli élet, a pedagógusok, az oktatási környezet kontextusa, illetve az agresszió megtapasztalása. A vizsgálat célja, hogy feltárja, a tanuló nemének és évfolyamának hatása van-e a vonás-szorongásra, a szorongásforrások megélésére, és az általuk ismert/használt szorongáskezelési módszerekre. A vizsgálati mintában 638 fő 14-20 éves kor közötti gimnáziumi tanuló vett részt. A felhasznált módszerek a következők voltak: STAI-Trait alskála – Vonás-szorongás kérdőív; ismert és használt szorongáskezelési módszerek felmérése kérdőíves formában; Tanulók Szorongásforrásai (SZF-T) Kérdőív. A vizsgálati eredmények szerint a nem hatással van a diákok szorongásforrásaira, vonás-szorongására és az általuk használt szorongáskezelési módszerek ismeretére és használatára. Az évfolyam azonban nincs összefüggésben sem a tanulók vonás-szorongásával, sem az általuk ismert és használt szorongáskezelési módszerek számával, valamint a szorongásforrásokkal is korlátozott kapcsolatot mutat. A vizsgálati személyek válaszai alapján a leggyakoribb intenzív szorongásforrások a kevés szabadidő, a rossz érdemjegyek, a számonkérések (dolgozat, felelés, vizsga). A szorongás vizsgálata és a tanulói szorongásforrások azonosítása releváns téma a felnövekvő generáció iskolai és szélesebb körben történő bevalásának tekintetében. A jövőbeni kutatásokat célszerű más köznevelési intézmények tanulóira is kiterjeszteni.

Kulcsszavak: szorongás, szorongásforrások, iskolai környezet, gimnázium, tanulók, szorongáscsökkentő technikák

Diszciplína: pszichológia

Sources of Student Anxiety

School-related anxiety is not limited to learning situations and tasks; rather, it represents a far more complex phenomenon. The most typical forms of anxiety experienced in the school environment include separation anxiety, social anxiety, and generalized anxiety (Weiner, Suveg & Kendall, 2006).

The sources of anxiety associated with the school context can be identified along the following categories: anxiety related to social or peer situations; anxiety connected to learning; anxiety arising from emotional experiences; anxiety

stemming from life outside school; anxiety originating from teachers or school leadership (the educational environment); and anxiety linked to experiences of aggression.

In psychological terms, the traumas and sources of anxiety related to the school environment are, in most cases, of a prolonged type (Kris, 1956), rather than single, unexpected events. The so-called Type II trauma manifests through repeated and long-term psychological and/or physical abuse within the secondary socialization context — namely, within educational institutions.

Characteristic Sources of Student Anxiety

School-related anxiety arising from social and peer situations constitutes a significant source of distress. Social anxiety is among the three most common psychological disorders; nevertheless, it is not always properly identified. It comprises multiple components, of which the most salient are lower self-esteem and self-efficacy, intense self-criticism, fear of negative evaluation or judgment, and dependency (Iancu, Bodner, & Ben-Zion, 2015).

Distress in social situations is conceptualized as socially derived anxiety, explained by societal expectations of perfectionism, high performance, and other normative behaviors (Perczel-Forintos & Kresznerits, 2017). Contemporary society tends to favor extraverted personality traits, occasionally deeming introverted traits problematic. However, social anxiety should not be conflated with introverted personality functioning. In problematic cases, the source of anxiety lies in exposure to the attention of others, as in situations involving social or performance demands (DSM-5, 2013). In the school environment, social attention primarily manifests in activities such as performing before classmates, role-play tasks, oral reading, requesting help from teachers or peers, group activities, and oral assessments or tests (Hirsch & Clark, 2004). Refusal to participate in literary performances, such as recitations or storytelling, may also indicate anxiety, as well as a lack of motivation (Mező & Mező, 2020). The affected student anticipates potential embarrassment and fears negative evaluation due to performance, appearance, or behavior. Avoidance tendencies may emerge, leading to underperformance relative to actual abilities and unsuccessful peer integration. Constant anxious vigilance, narrowed self-focused attention, and striving to make a good impression may compromise social reciprocity, thereby validating concerns of rejection (Fennell, 1998).

Sources of Anxiety Related to Learning. Socially derived sources of anxiety overlap considerably

with anxiety linked to aggression and academic performance. Test anxiety represents a phenomenon that combines elements of generalized anxiety and social fear, often triggered by school-related experiences of failure. Concern about personal performance and the cognitive-emotional components of negative affect constitute test anxiety (Sapp, 1993), which emerges intensely in evaluative situations. Students typically form expectations of themselves based on optimistic or pessimistic personality traits until sufficient feedback regarding their performance has been experienced. The realization of a conflict between emotional and cognitive processes may hinder the achievement of high-level performance (Pekrun, 2006). Perceiving a mismatch between one's abilities and the performance standards expected in school increases younger students' sensitivity to stress (Salovey, 2006), limits academic outcomes, and elevates anxiety levels (Macklem, 2008). Performance-related anxiety may also be influenced by excessive parental expectations and, in the context of examinations, by parents' negatively valenced verbal and nonverbal communication patterns (Sapp, 1993). Persistent criticism, expressions of dissatisfaction, guilt-inducing responses to underachievement, and chronic worry adversely affect students and may foster maladaptive attitudes toward performance, such as perfectionism (Chang, 1998). Even ease of handling material, deviation from the average, or fear of success may provoke anxiety, especially if peers exclude a student based on academic performance (Mező, 2015). Cognitive performance can be enhanced when psychological preparation—including the development of coping strategies for stress and anxiety—is optimally supported (Mező, 2016; Mező & Mező, 2023).

Emotionally Induced Sources of Anxiety. Loss of emotional equilibrium can manifest in mood, somatic, behavioral, and cognitive difficulties. School-related stress, peer victimization, teaching methods, and other distressing events may tempo-

rarily destabilize students, and the consequences of such destabilization can themselves become sources of anxiety (Agarwal, Srivastava, & Sitholey, 2019). Adverse life events and experienced traumas are also non-specific risk factors for anxiety and other psychological symptoms. Physical and emotional neglect, abuse, parental separation, parental relationship conflicts, domestic aggression, and childhood illness can all constitute significant sources of anxiety (Spence & Rapee, 2016).

The challenges associated with daily school attendance can be understood through multiple emotional factors. Intense fear may be related to excessive attachment to the mother, overprotective or overly restrictive parental attitudes. Symptoms can be accompanied by somatic and behavioral problems (Cassady, 2010). Aggressive behavioral manifestations, opposition, and temper outbursts may reflect disturbances in emotional life and anxiety-related experiences. According to Tringer (2010), adolescent school traumas and academic failures can be identified as causes of school phobia. A physically present student in the classroom may often be mentally absent, passively engaging in doodling or daydreaming. In some cases, this phobia or aversion does not extend to the school as a whole but is limited to certain teachers, classes, or subjects. In the most severe cases, this may escalate to school refusal (Vetró, 2008), and phobic fear or anxiety toward school can become entrenched over time. Emotional disturbances and psychological burdens are not only experienced by the affected student but can also be observed among peers. Self-harm and substance use represent taboo areas, yet timely detection is crucial. The more extensive the deliberate injuries on the skin, the more alarming they are, necessitating professional intervention (Csorba et al., 2007). Peer-related factors play a significant role in adolescent substance use. Peer pressure, as well as the desire for acceptance and belonging, significantly contribute to experimentation. In behavio-

ral addictions (e.g., problematic video game use), the need to belong has a particularly strong influence. However, personality traits and inherent vulnerabilities play a more decisive role in the development of dependence (Demitrovics & Koronczai, 2015). In such cases, consulting a helping professional may become necessary, although professional shortages, stigma, and fear of consequences associated with problem recognition can impede help-seeking.

Sources of Anxiety Related to Life Outside School. One type of anxiety arising from life outside school is the experience of familial tensions. Students face additional burdens when they encounter intrafamilial crises or changes, or when persistent problems exist within the family environment. Therefore, the background of experienced anxiety must also consider factors outside the school context, whose adverse effects are brought into the educational setting by the child. In such cases, the state of anxious readiness consumes significant energy and attention, hindering the completion of age-appropriate developmental tasks. Anxiety associated with intrafamilial violence, for instance, may manifest in adolescents as reduced coping abilities, aggression, and susceptibility to deviant behavior (N. Kollár & Szabó, 2017).

Daily school routines, including morning wake-up schedules, can also become critical tasks for students, particularly in connection with disruptions of the circadian rhythm. Adolescents who maintain late-night social lives and fail to manage their time effectively more frequently report difficulties waking in the morning, daytime fatigue, and, in some cases, school absenteeism (N. Kollár & Szabó, 2017). In extreme cases, the issue may escalate to behavioral addictions related to screen use, when this daily lifestyle becomes excessive and begins to dominate the adolescents' entire routine, impairing physical and/or mental health (Demitrovics & Kun, 2007). Phobia-related fears of illness also appear among common daily

anxieties. Rarely, absenteeism or falling behind due to illness is the root problem; more often, the concern stems from the unpleasant consequences of illness. Anxiety may also arise during travel between home and school, for instance due to crowded public transport, distance, or being alone in open spaces, which can be interpreted as a form of agoraphobia. Roles, responsibilities, and the balance between obligations and leisure outside school may also be sources of negative feelings. Adolescents have a heightened need for peer relationships, and their current activities are typically influenced by these interactions (Tóth, 2000). Consequently, excessive schoolwork that limits time for peer engagement can be particularly challenging. One of the central tasks of the transition to adulthood, however, is learning to reconcile responsibilities with recreation and rest.

Sources of Anxiety Related to the Educational Environment. Excessive expectations perceived in relation to academic and other tasks, stemming from parents and teachers, can also become sources of anxiety for students. Parental rejection, harsh or over-protective parenting, and unattainable demands appear before children as unrealistic expectations, which become internalized as negative self-image, distorted self-assessment, and lack of self-confidence. An anxious child may also experience unwarranted fears in school relationships, perceiving academic challenges as threats and anticipating failure (Kulcsár, 1982). Students may feel that teachers' expectations are incompatible with their abilities, leading to a persistent tendency to avoid challenging situations. Fear of punishment, the perception of a dictatorial approach within the school environment, and encountering restrictions are all associated with tension and a state of constant vigilance.

The prohibition of using telecommunication devices in schools (Magyar Közlöny, 2024) has elicited a variety of reactions among students. A widespread perception of injustice, favoritism, or

bias can further fuel anxiety symptoms. Moreover, new information and communication technologies, along with online communities frequently accessed by students, can pose risks in addition to benefits, potentially impairing attention, cooperation, and motivation (Szűts, 2021). The prolonged restriction of students' opportunities to express their opinions may eventually lead to larger conflicts (Tóth, 2000).

Anxiety Related to Aggression. Within peer communities, children may exhibit behavioral warning signs when they experience aggression in their environment, including exposure to abuse. Indicators may include difficulties in establishing and maintaining age-appropriate social relationships, arriving too early or leaving too late, frequent absences, or persistent presence. Children affected by anxiety often show passive participation in extracurricular institutional programs. Concentration and learning may be impaired, and academic performance can decline unexpectedly (Reinhardt, 2024). For the child and adolescent population, aggression, violence, and bullying within the school environment are rarely isolated incidents; rather, they typically constitute prolonged traumatic experiences. Based on prior professional consensus, "school-based" aggression occurs when aggressive acts take place within an educational institution and involve individuals holding roles within the school community—so-called "school citizens" (e.g., students, teachers, parents, other school staff) (Herczog, 2007; Schuster, 2009; Gyurkó & Virág, 2009). The setting may extend beyond the school building itself to include routes to and from school, as well as camps and other school-related environments.

Investigation of School-Related Anxiety in Students

Anxiety disorders constitute the most prevalent psychological problem among the school-age population (e.g., Kashani & Orvaschel, 1990); however, the majority of cases remain unre-

cognized. Due to the nature of anxiety and the accompanying inhibition, anxious children do not always express their difficulties (Sarnoff & Zimbardo, 1961), nor do their symptoms necessarily pose an apparent challenge to their environment. Consequently, anxiety symptoms are most effectively identified through targeted questioning and by directing the research focus specifically toward the assessment of anxiety. Left unaddressed, hidden anxiety can lead to additional psychological, life-management, social, and school-related difficulties (e.g., Scholten et al., 2013; Zolog et al., 2011) and may persist long-term, potentially interfering with adult life (e.g., Keller et al., 1992; Vetró, 1999). Researchers have long been interested in the factors associated with the realization of individual capacities (e.g., Maslow, 1962). Several authors have also highlighted the relationship between anxiety and academic performance (e.g., Last, Hanson, & Franco, 1997; McGee & Stanton, 1990).

Research Questions and Hypotheses

Research Question: Does students' gender and grade level influence their trait anxiety (as measured by the STAI-T questionnaire), the number of anxiety-coping strategies they are familiar with and use, and the nature of the anxiety sources they experience?

Hypothesis: It is expected that students' gender and grade level will have an effect on trait anxiety, the experience of anxiety sources, and the number of anxiety-coping strategies they know and employ. Specifically, it is hypothesized that female students will exhibit higher levels of anxiety and higher scores for experienced anxiety sources, as well as a greater number of employed coping strategies. Conversely, it is anticipated that students in lower grade levels will demonstrate higher levels of anxiety and higher total scores for anxiety sources, but will utilize fewer anxiety-coping strategies compared to students in higher grade levels.

Rationale for the Hypothesis: The prevalence of anxiety indicates a higher incidence among female students (Vetró & Pászthy, 2020), particularly regarding phobic-type anxieties, panic disorder, agoraphobia, and separation anxiety. All non-gender-specific forms of anxiety can also be applied to school-related sources of anxiety (e.g., leaving home, peer community, emotional strain, illness, etc.). The broader repertoire of coping strategies among female students can be associated with their increased interest in and openness toward psychology (Borbáth, 2021). Avoidant mechanisms and psychological dysfunctions are less likely among students in higher grades, as they are more familiar with the school context and have had time to develop personal anxiety-coping strategies.

Sample

The study involved $n = 638$ secondary school (high school) students ($M_{\text{age}} = 16.46$ years; $SD = 1.340$). The youngest participant was 14 years old, while the oldest was 20. The distribution of participants by grade level and gender is presented in *Table 1*. On average, there were approximately 159.5 students per grade level, including 65 male and 94.5 female students (*male : female ratio* = 40.75% : 59.25%). According to the results of the chi-square test, there were no significant differences in group sizes based on grade level or gender.

Table 1. Distribution of students by grade level and gender. Source: Author

Grade level	Gender		Total (n)
	Male (n)	Female (n)	
9th	60	109	169
10th	70	79	149
11th	60	96	156
12th	70	94	164
Total	260	378	638

Sampling Rationale. The student sample was composed of secondary high school students. The target population was defined as high school students because they are more likely to plan for higher education, and thus, anxiety may have long-term implications for their learning efficiency. Another consideration was that, according to preliminary data from the Hungarian Central Statistical Office (KSH) for the 2024/2025 academic year, approximately 65% of students enrolled in secondary education attend high schools (ksh.hu, 2025).

The geographical criterion for sample selection specified the inclusion of students from the Northern and Eastern regions of Hungary, as the practical application of the research findings is expected to take place primarily within these areas.

Data collection was conducted using convenience sampling, through an online questionnaire administered in groups under the supervision of teachers. Participation was voluntary, and for underage students, written parental or legal guardian consent was obtained. All procedures adhered to ethical guidelines regarding anonymity and data protection. In terms of representativeness by gender, according to the Hungarian Central Statistical Office (KSH) database for the 2024/2025 academic year, the male-to-female ratio among high school students in Hungary is 45% to 55%, which closely corresponds to the gender distribution observed in the present sample (ksh.hu, 2025).

Method

Instruments

a) STAI-Trait Subscale – Trait Anxiety Inventory

In line with the research objective of assessing students' individual levels of anxiety, the study employed the Trait subscale of the State-Trait Anxiety Inventory (STAI-T) developed by Spielberger. Participants responded to the 20 items of

the scale administered online via Google Forms. The STAI-T measures the relatively stable tendency to experience anxiety across a wide range of situations. The mean scores obtained for the high school sample provide novel data within this context and are summarized in *Table 2*.

Table 2. Mean and Standard Deviation Scores of High School Students on the Hungarian Adaptation of the STAI-Trait Anxiety Inventory Source: Sipos, Sipos, & Spielberger (1988, p. 127).

Sample	Trait anxiety	
	Mean	Standard Deviation
Non-specialized high school (n=98)		
Males	40.34	8.42
Females	43.64	8.05
Total	42.36	8.31

b) Assessment of Known and Used Anxiety Management Techniques

Data collection involved a paper-and-pencil or online questionnaire, in which participants indicated the anxiety management techniques they were familiar with and those they actively used from a predefined list. The list included the following techniques: autogenic training, breathing exercises, progressive relaxation, mindfulness, imagination, cognitive techniques, and other techniques.

Characteristics of the items:

Number of items specifying anxiety management techniques: 6 items + 1 “other” item, which allows participants to provide a technique not included in the predefined list.

Possible responses for each item: yes or no. The “other” item additionally allows for textual elaboration.

Response scale: binary nominal scale. Extremes: min = 0 (“no”), max = 1 (“yes”). The theo-

retical scale range: 1. The “other” item is nominal and textual in nature.

Characteristics of the derived scales:

Number of known anxiety management techniques: Qualitative scale; range: min = 0, max = 7; theoretical range: 8.

Number of used anxiety management techniques: Qualitative scale; range: min = 0, max = 7; theoretical range: 8.

c) Students’ Sources of Anxiety Questionnaire (SZF-T; available from the Author)

An independently developed paper-and-pencil (or online) questionnaire was used to assess the sources of anxiety among students. Respondents indicated the degree of anxiety experienced in various situations using a 5-point Likert scale.

Characteristics of the items:

Number of items: 48

Possible responses for each item (1 = does not cause anxiety at all, 2 = causes mild anxiety, 3 = causes moderate anxiety, 4 = causes considerable anxiety, 5 = causes extreme anxiety

Response scale: ordinal; extremes: min = 1, max = 5; theoretical scale range = 5 points

Characteristics of the derived scales:

SZF-Total score (Student): Quantitative; range: min = 48, max = 240; theoretical range = 192 points. Calculated by summing the scores of all 48 items.

SZF-Social/peer-related anxiety: Quantitative; range: min = 8, max = 40; theoretical range = 33 points.

SZF-Learning-related anxiety: Quantitative; range: min = 8, max = 40; theoretical range = 33 points.

SZF-Emotion-related anxiety: Quantitative; range: min = 8, max = 40; theoretical range = 33 points.

SZF-Out-of-school life-related anxiety: Quantitative; range: min = 8, max = 40; theoretical range = 33 points.

SZF-Educational environment-related anxiety: Quantitative; range: min = 8, max = 40; theoretical range = 33 points.

SZF-Aggression-related anxiety: Quantitative; range: min = 8, max = 40; theoretical range = 41 points.

SZF-Other anxiety sources: This is a supplementary item collected for additional information; it is not included in any of the above scales. Scale type: nominal (qualitative), allowing respondents to provide textual information.

Psychometric properties:

No previous psychometric data are available, as this is a newly developed instrument specifically created for the present study.

Results

Effects of gender and grade level on students’ anxiety and the number of anxiety management techniques known and used.

Gender was found to have a significant impact on students’ sources of anxiety, trait anxiety, and their knowledge and use of anxiety management techniques. According to the results of the Mann–Whitney U test, significant differences between genders were observed across all measures ($p \leq 0.001$):

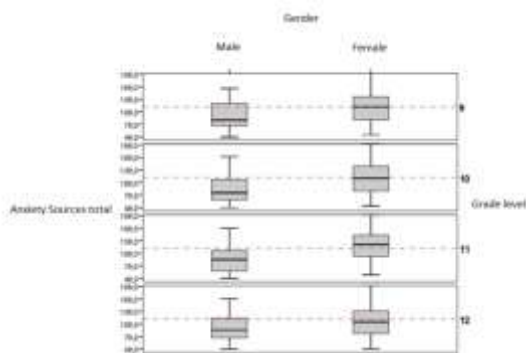
Magnitude of anxiety sources (Figure 1): Girls exhibited significantly higher median values than boys for all sources of anxiety.

Trait anxiety levels (STAI scores: $U = 28,204.50$; $Z = -9.155$): Girls’ scores (Mean Rank = 374.88; Median = 50) were higher than those of boys (Mean Rank = 238.98; Median = 41.50) (see Figure 1).

Notably, according to a one-sample Wilcoxon signed-rank test, the boys’ median trait anxiety score (Med = 41.50) did not differ significantly from the normative value for high school students (Med = 42.36). In contrast, the girls’ observed

median score (Med = 50.00) differed significantly ($p < 0.01$) from both the national normative median for the age group (Med = 42.36), the normative median specifically for girls of the same age (Med = 43.64), and the boys' median score (Med = 41.50).

Figure 1. Total scores of anxiety sources by students' gender and grade level. Source: Authors

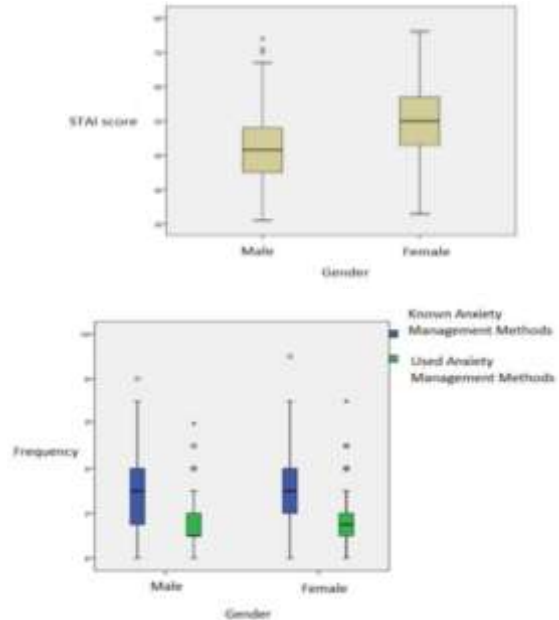


For the number of known anxiety management methods ($U = 42,059.5$; $Z = -3.154$): girls scored higher (Mean Rank = 338.23; Med = 3.00) than boys (Mean Rank = 292.27; Med = 3.00).

For the number of used anxiety management methods ($U = 40,104.0$; $Z = -4.217$): girls scored higher (Mean Rank = 343.40; Med = 1.50) than boys (Mean Rank = 284.75; Med = 1.00). See Figure 2.

Grade level has no effect on students' trait anxiety or on the number of anxiety management methods they know and use – according to the Kruskal-Wallis test, the differences between grade levels are not significant. Regarding sources of anxiety, only two variables show slightly lower scores for 10th graders compared to other grades (see Figure 1): for learning-related anxiety ($\chi^2 = 13.876$; $df = 3$; $p < 0.05$) and for out-of-school life-related anxiety ($\chi^2 = 9.326$; $df = 3$; $p < 0.05$).

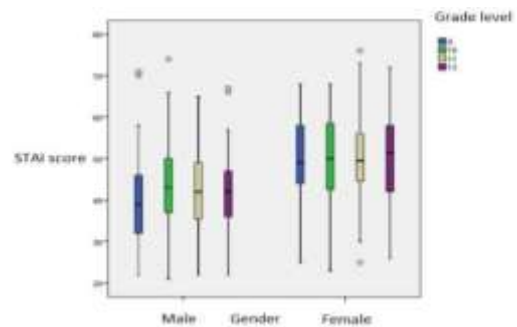
Figure 2 The Effect of Gender. Source: Authors



Interactive effect of *gender* and *grade level* on anxiety, and on the *number of known and used anxiety management methods*: According to the Kruskal-Wallis test, a significant difference ($p \leq 0.001$) was observed between groups formed based on gender and grade level in STAI scores ($\chi^2 = 88.753$; $df = 7$; cf. Figure 3) and in the number of anxiety management methods used by students ($\chi^2 = 29.065$; $df = 7$).

Based on the number of anxiety management methods known by the students, these groups do not differ significantly from each other.

Figure 3. Anxiety (STAI score) by students' gender and grade level. Source: Authors.



Students were asked to indicate which of the anxiety sources listed in the questionnaire caused them the most anxiety, as well as which ones caused the second- and third-highest levels of anxiety (Table 3).

For most high school students in the sample, lack of free time represents the highest source of anxiety, indicated as the primary source by 9% of respondents. This is followed by poor grades (8.8%) and assessments (tests, oral recitations, exams) (7.6%), which belong to the factor of school-related sources of anxiety. Family-related tension (6.2%), classified as an out-of-school source of anxiety, also appears among the highest anxiety-inducing factors. The second-highest sources of anxiety involve similar items: poor grades (9.8%), lack of free time (8%), and assessments (tests, oral recitations, exams) (7.6%) remain in the top three. Additionally, performance situations (e.g., oral recitations, giving presentations to the class) appear as the second-highest source (5.8%). The third-highest sources for the student sample include poor grades (7.4%), unexpected quizzes

(6.3%), assessments (tests, oral recitations, exams) (6.2%), and lack of free time (6.2%).

Overall, the most common and intense sources of anxiety for the participants are lack of free time, poor grades, and assessments (tests, oral recitations, exams).

Known and Used Anxiety Management Methods Among the Students in the Sample

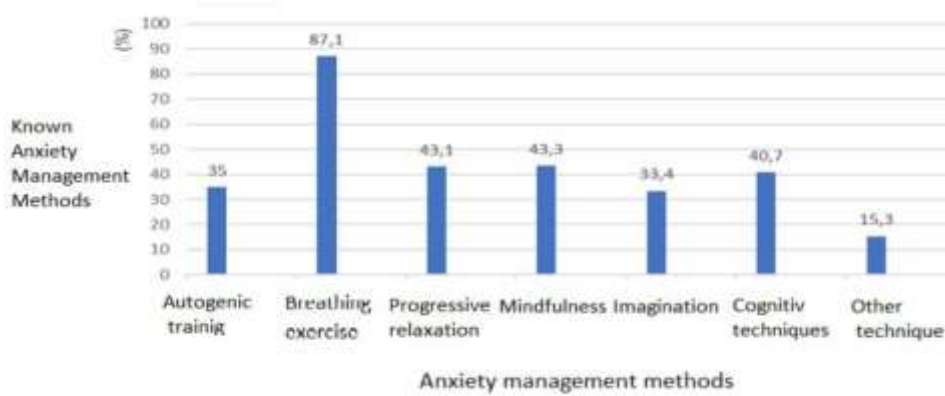
The anxiety management methods known by the students in the research sample are presented in Figure 4. The most widely recognized technique is breathing exercises, which nearly all students had heard of (87.1%). Progressive relaxation (43.1%) and mindfulness (43.3%) were known to almost the same ratio of respondents.

These were closely followed by cognitive techniques, reported as familiar by 40.7% of the students. Approximately one-third of the participants were aware of autogenic training (35%) and the related imagination technique (33.4%). An additional 15.3% of respondents mentioned other techniques.

Table 3. The Highest Level of Anxiety Sources Selected by Students in the Sample. Source: Authors

Level	Sources of Anxiety and the Relative Frequency of Students Indicating Them (100% n=638)			
Causing the Highest Anxiety	Lack of free time 9 %	Poor grades 8,8 %	Assessments (tests, oral recitations, exams) 7,6%	Family-related tensions 6,2%
Causing the 2nd Highest Anxiety	Poor grades 9,8%	Lack of free time 8%	Assessments (tests, oral recitations, exams) 7,6%	Performance situations (e.g., answering in class, giving a short presentation to the class) 5,8 %
Causing the 3rd Highest Anxiety	Poor grades 7,4%	Unexpected quizzes 6,3 %	Assessments (tests, oral recitations, exams) 6,2 %	Lack of free time 6,2 %

Figure 4. Known anxiety management methods among students in the sample. Source: Authors.



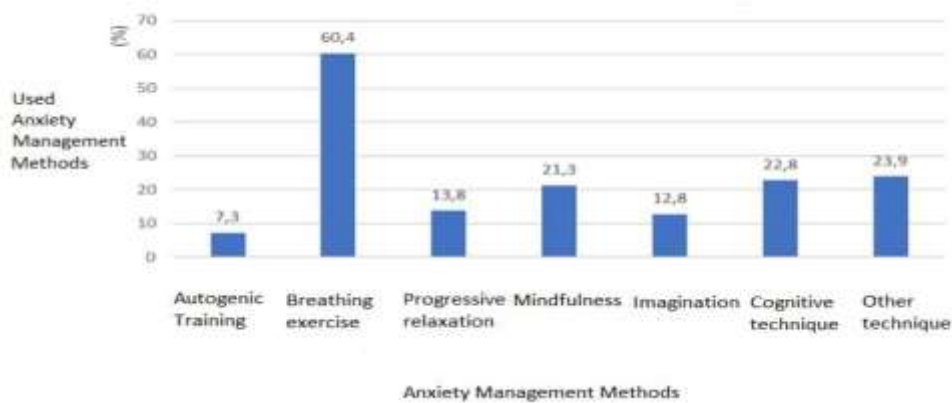
The Ratio of Anxiety Management Methods Used by Students

Naturally, the ratio of anxiety management methods actually *used* by students is lower; however, each of the listed methods was reported as being practiced by at least some respondents (see Figure 5). Compared with the previous figure, it is striking that breathing exercises again stand out as by far the most commonly applied technique (60.4%). In contrast, each of the other methods appears in the

anxiety-management repertoire of less than one-quarter of the sample.

The use of other techniques showed the highest relative frequency, with 23.9% of students indicating personal strategies beyond the options listed. Cognitive techniques ranked third with 22.8%, closely followed by mindfulness at 21.3%. Progressive relaxation (13.8%) and imagination (12.8%) were applied by roughly half as many students, while the use of autogenic training was reported by only 7.3% of the sample.

Figure 5 Anxiety management methods used among students in the sample. Source: Authors.



Discussion

The hypothesis stating that “the student’s gender and grade level are expected to have an effect on trait anxiety, on the experience of anxiety sources, and on the number of anxiety-management methods known or used” was partially confirmed.

When compared with data from the relevant literature, it becomes evident that the higher susceptibility of girls to anxiety-related symptomatology is indeed supported (Vetró & Pászthy, 2020). In the present sample, female students not only scored higher on the Trait Anxiety Scale than their male counterparts, but their mean scores also exceeded those reported in earlier studies (Sipos, Sipos & Spielberger, 1988, 127).

However, the international literature’s indication that grade level itself may serve as a source of anxiety (Fimian & Santoro, 1983) was not confirmed in this study. The higher rate of use of anxiety-management methods among girls, on the other hand, is consistent with previous Hungarian findings (Borbáth, 2021).

Several potential explanations may underlie these results: 1. Compared with previous studies, the present sample consists of members of the youngest generation, which may reflect shifting developmental or social characteristics. 2. Cultural factors may also account for some of the discrepancies between this study and prior research. 3. The sample was specific, representing a high school population that may differ from other adolescent groups studied previously. 4. The questionnaire on sources of anxiety for students is in its first pilot administration, and therefore no previous data are available for comparison.

From these findings, the following conclusion can be drawn: female secondary school students require greater attention regarding the manifestation of anxiety-related symptoms. Encouragingly, whether due to heightened perceived anxiety levels or greater personal awareness and interest, they appear to know and apply a wider variety of

anxiety-management methods. It is also important to note that no significant differences by grade level were found in terms of anxiety vulnerability.

The practical implications of these findings include: 1. In the field of educational diagnostics, the student version of the Anxiety Sources Questionnaire (SZF-T) may serve as a valuable future tool, providing teachers with new insights. 2. Within the educational and school context, identifying target groups and teaching missing anxiety-management methods can enhance teachers’ preventive and intervention effectiveness. 3. In teacher education, incorporating content related to students’ anxiety symptomatology could enrich curricula and improve professional preparedness.

Limitations and Future Research Directions

It would be advisable to increase both the sample size and representativeness in future investigations. Furthermore, including students from other secondary educational institutions and grade levels would be essential to enhance the representativeness of the findings.

Additionally, future versions of the student questionnaire could incorporate further items addressing anxiety sources related to post-secondary education and career choice, as these areas may represent significant stressors for adolescents.

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