10.24193/ed21.2025.31.07

Linking Self-Reported Symptoms of ADHD, Dyslexia, and Emotional Distress to Academic Engagement in Students

Karla Melinda Barth, Marius Țepelea, Raluca Răcășan

Educatia 21 Journal 31 (2025) – Special issue
Special Issue: Proceedings of 13th International Conference "Education, Reflection, Development" (ERD 2025)
Educatia 21 Journal, (31) 2025, Art. 07
doi: 10.24193/ed21.2025.31.07
Research article

Linking Self-Reported Symptoms of ADHD, Dyslexia, and Emotional Distress to Academic Engagement in Students

Karla Melinda Barth [a], Marius Țepelea [b], Raluca Răcășan [a*]

[a] *Department of Educational Sciences, University of Oradea, Oradea, Romania*
[b] *Department of Theology, University of Oradea, Oradea, Romania*

*Corresponding author: *raluca_onicas@yahoo.com*

Abstract

This study examines the incidence of attention deficit hyperactivity disorder (ADHD), dyslexia, and emotional distress (depression, anxiety, and stress) in a group of educational sciences students and analyses their relationship with relevant indicators of academic engagement in university students. A mixed-methods approach was utilized, with mainly quantitative data collected from 233 undergraduate students in the educational sciences field, during the 2024–2025 academic year through a structured questionnaire. The current study uses a subset of data related to mentioned psychological variables, in the context of a larger study focused on exploring diverse group characteristics and factors of academic engagement and performance of undergraduate students in the field of educational sciences, in full-time [FT] and blended learning format [BL]. Aimed to identify the prevalence of these learning difficulties and explore their relations with five academic engagement indicators, the present study results revealed that 9.9% of participants reported a high risk for ADHD diagnostic, 1% reported considerable symptoms of dyslexia, and 53% showed varying levels of emotional distress, with anxiety being the most prevalent (53%), followed by stress (30%) and depression (27%). Also, students with higher depression symptoms demonstrated lower academic engagement overall, except for attendance to academic activities, and all psychological scores were negatively associated with the thorough study of courses. The findings suggest that ADHD, dyslexia, and emotional distress are prevalent among university students and have a notable negative impact on academic engagement and performance, emphasizing the need for targeted support interventions, including academic adaptations and mental health resources, to improve student outcomes. The study calls for further research into the complex interplay between these factors and the development of tailored academic strategies to assist affected students.

Keywords:
depression, anxiety, stress, ADHD, dyslexia, academic engagement

1. Introduction

Adult learners, particularly non-traditional and blended learning students, often face unique barriers that can compromise academic engagement. Many juggle competing demands such as employment, caregiving responsibilities, and financial challenges, which contribute to increased stress levels and limited study time. These contextual challenges can affect the ability to attend academic activities regularly, engage in course study thoroughly, or complete all the academic tasks.

Garrison and Vaughan (2008) highlight that proactive engagement and self-regulated time management are essential for adult learners' academic success. Moreover, specialty literature highlights the significant impact of mental health and neurodevelopmental conditions on students' academic behaviors. Depression, anxiety, and ADHD symptoms are associated with concentration difficulties, diminished motivation, and poor academic persistence (DuPaul et al., 2015). These psychological challenges often remain underreported in university contexts, particularly among adult students who may be less likely to seek formal diagnosis or support.

Learning disabilities, including dyslexia, also remain a critical under-recognized factor influencing academic engagement. Students with undiagnosed or mild forms of dyslexia may develop compensatory strategies to cope, such as spending disproportionate time on coursework, avoiding reading-intensive subjects, or limiting academic engagement to essential tasks only (Glenn et al., 1988; Heiman & Precel, 2003). Without appropriate adaptations, these students often experience academic fatigue and disengagement and could lead to great difficulties in promoting disciplines and finishing academic studies. Screening tools and targeted interventions are therefore essential to identify subtle learning difficulties and provide equitable support (Kirby et al., 2008). Minor

adaptations, such as additional time on assessments, different test formats, or oral processing support, can substantially improve outcomes. Also, for fostering motivation, Bochiș and Florescu (2018) suggest that in independent activities, teachers could encourage the cognitive and behavioral autonomy of students, taking also into account their personality traits, which are associated with academic performance, such as conscientiousness.

This study aims to screen for the incidence of self-reported symptoms of depression, anxiety, stress, dyslexia, and ADHD among a group of educational sciences students. Previous research has shown that these conditions can significantly impair academic functioning and reduce engagement (DuPaul et al., 2009; Nelson & Harwood, 2011; Richardsonet al., 2012). By examining the incidence of self-reported symptoms of ADHD, dyslexia, depression, anxiety, and stress, and their correlation with academic behaviors (as main objective), this study seeks to identify vulnerabilities that may hinder student progress in our group of students. Such findings are valuable for informing institutional practices that promote inclusion, engagement, and academic success, particularly for adult learners enrolled in BL academic formats and generally for non-traditional students.

2. Theoretical foundation

Learning disorders and emotional difficulties are a significant challenge among students in general, including those in the field of Educational Sciences. Among them, attention deficit hyperactivity disorder (ADHD) and dyslexia are common and often comorbid, contributing to emotional vulnerability and reduced academic performance.

The prevalence of ADHD among university students is estimated to be between 1.4% and 8.3% (Du Rietz et al., 2023), but other international studies report even higher figures, up to 15.9% among first-year students (Auerbach et al., 2016).

Neurodevelopmental disorders such as ADHD and dyslexia are frequently associated with emotional difficulties, including depression, anxiety, and stress, with significant impact on students' academic performance and adjustment (Auerbach et al., 2016; Du Rietz et al., 2023; Knight, 2018). In the case of students with dyslexia, self-esteem levels are significantly lower, while symptoms of anxiety and depression are higher than in peers without dyslexia (Mugnaini et al., 2009). These disorders often occur concomitantly, up to 45% of students with dyslexia may experience ADHD symptoms (Mayes et al., 2000).

Recent data show that among Romanian students there is a significant level of depressive, anxious and stress symptoms. Among medical students there have been reported prevalences of severe depression of 8% and severe anxiety of 9% in students in Bucharest (Vlad et al., 2020), and among dental students in Cluj and Oradea, the prevalences ranged between 11 and 17% for depression, 28 and 50% for anxiety (during the winter session), and 3.7 and 6.8% for stress (Rotaru et al., 2024). These differences highlight a significant impact of emotional issues on students.

Considering that students in Pedagogy and Psycho-pedagogy are the future professionals in education, awareness of these challenges is essential. Psychoeducational interventions, early screening, and personalized support strategies are recommended to facilitate the academic success and emotional well-being of these students.

3. Research methodology

3.1. Objectives

This study examines the relationship between self-reported symptoms of ADHD, dyslexia, and emotional distress (depression, anxiety, and stress) and their associations with relevant indicators of academic engagement in university students in the field of educational sciences, to better understand some of its factors and suggest measures to support and facilitate students' engagement. The study uses a subset of data related to mentioned psychological variables, in the context of a larger study focused on exploring diverse group characteristics and factors of academic engagement and performance of undergraduate students in the field of educational sciences, in full-time [FT] and blended learning format [BL].

Academic engagement has been operationalized through the self-estimated percentage of attendance in academic activities (courses, seminars or face-to-face applicative activities, online meetings) and indicators of academic proactive study engagement, measured through the extent to which students appreciate, on a 7-point Likert scale, that they have thoroughly and completely studied their courses, they went through (reviewed) all the course materials, they have completed important assessment tasks on time (e.g., projects, ongoing assignments, control tasks) and that they have completed and responded to all recommended tasks by the teachers, including optional ones.

Through this study, we propose:

- a screening for the incidence of self-reported symptoms of depression, anxiety, stress, dyslexia, and ADHD in a large group of educational sciences students,
- and to examine the relationship between academic engagement indicators and self-reported symptoms of ADHD, Dyslexia, Emotional distress (Depression, Anxiety, and Stress).

The general research questions relate to how these factors distribute in the group and to what extent do these factors relate to academic attendance and engagement, if they do make a difference or are associated with it. Although this is mostly an exploratory study for a better knowledge of a specific group, though we hypothesize that:

- Hypothesis 1: Self-reported symptoms of ADHD, dyslexia and emotional distress (depression, anxiety, stress) present high incidence among educational sciences students.
- Hypothesis 2: Depression, anxiety, and stress levels differ significantly between FT and BL students.
- Hypothesis 3: High levels of depression, anxiety, stress and dyslexia are significantly negatively associated with indicators of academic engagement.

3.2. Participants

The group of participants consists of 233 students in educational sciences, 215 in Pedagogy of Primary and Preschool Education (89 in the 1st year, in Full-Time [FT] education and 126 in Blended Learning [BL] education, in the 1st and 2nd year) and 18 in the Special Psycho-pedagogy specialization, 1st year. As regards to the gender, the distribution is representative of the field of Educational Sciences, so that 98% are female and only 2% are male. The average age is 24.7, and the median age is 20, with a minimum of 18 and a maximum of 51 years.

From the entire population of first year undergraduate students at educational sciences, Romanian sections (230 students), at University of Oradea, 171 participated to the study, representing 74% of the total population. This could be considered a highly representative sample for active students, with lower risk of abandoning studies.

The main differences between the BL group and the FT group relate to (see Table 1) age, marital and parental status, residence distance from university, employment status and working hours. As observed, program characteristics show considerable differences between the BL and FT students. While the BL group consists of working adults, the majority with families, many parents, living at a distance from Oradea, choosing the blended format for its flexibility, the FT group consists of younger, mostly single, local students with fewer working hours. These differences highlight the distinct profiles of the two groups, with BL students balancing work, family, and study, while FT students are generally younger and more focused on their studies without the added responsibilities of work and family.

Table 1

Demographic, Social, and Employment Characteristics overview of BL vs. FT Students

Category	Blended Learning (BL) group	Full-Time Studies (FT) group
Group size	125 students (53.6%) (of which 51%- first year, 49%- second year)	108 students (46.4%) (of which 98%- first year, 2%- second year)
Average age	28 years	21 years
Median age	25 years	19 years
Marital status	52% married	14% married
Parental status	40% have children (10% have 1 child; 30% have 2–4 children)	10% have children
Residence in Oradea	30%	70%
Reside >50 km away	70%	30%
Employment: 0 hrs./week	25 students (20.0%)	74 students (68.5%)
Employment: 1–29 hrs./week	24 students (19.2%)	11 students (10.2%)
Employment: >30 hrs./week	76 students (60.8%)	23 students (21.3%)
Program characteristics	Working adults, majority with families, many parents and living at distance from Oradea; choose flexibility.	Younger, mostly single, local students, fewer working hours.

3.3. Instruments

3.3.1. The questionnaire for collecting socio-demographic, personal and academic background

data contains predominantly quantitative items expressed in age, kilometers, number of hours, grades or appreciations on a 1-7 Likert scale. The questionnaire has been widely described in Răcășan, 2024 and comprises items designed to measure the following variables related to socio- demographic and personal variables that are relevant for the current study:

- age and gender,
- residence distance from Oradea,
- relational/ marital and parenthood status (number and ages of children),
- employment status and hours/ week spent on paid work,
- hours/ week spent on household tasks and caregiving,

3.3.2. The academic engagement, challenges and performance questionnaire (fully described in Răcășan, 2024) contains items measured quantitatively (grades, percentages estimates and agreement with affirmations on a 1-7 Likert scale), of which the ones used in the current study refer to academic engagement:

- percentage of attendance in seminars or face-to-face applicative activities (self-estimation),
- percentage of participation in courses and online activities (self-estimation),
- thoroughly and completely study of courses,
- going through (reviewing) all the course materials,
- timely completion of assignments during semester that contribute to the final evaluation,
- completing all tasks and assignments recommended by the teachers, including optional ones.

3.3.3. Depression Anxiety Stress Scales, Short form [DASS-21R] (Lovibond, S.H. & Lovibond, P.F., 1995; Perțe, & Albu, 2011, in Perțe, 2013) is a set of three self-report scale, built to evaluate the emotional states of depression, anxiety and stress, intended for administration in the general population, for persons aged over 17 years. Romanian version of the questionnaire has 21 items (Perțe, 2013) and received the acronym DASS-21R. Adaptation and standardization on Romanian population has been made by Perțe and Albu (2011) and the Romanian-language edition of the manual is marketed by Cognitrom. However, DASS-21R (its items) is in public domain, not covered by copyright laws.

3.3.4. Adult Checklist [AK] (Smythe & Everatt, 2001, in Kavkler et al., 2010) has 15 items and it was translated and adapted into Romanian language in 2010 as part of the ISHEDS project, aimed at supporting students with dyslexia in the Balkans and Central Europe (Kavklar et al.). This self-report scale was validated for identifying potential cases of dyslexia and serves as an early tool for flagging individuals for future assessment and diagnosis in the reading domain. Although it is not a diagnostic tool with predictive value on its own, research has shown that it can be used effectively in conjunction with other tools or self-reports to identify possible cases of dyslexia (Snowling et al., 2012).

3.3.5. Adult ADHD Self-Report Screening Scale - short version [ASRS-6] (Kessler et al., 2005, in Bőthe et al., 2021) is a brief, self-administered instrument designed to screen for symptoms of ADHD in adults. It is based on the diagnostic criteria outlined in the DSM-IV and has been validated as a reliable measure to identify individuals who may benefit from further diagnostic evaluation for ADHD. Although it is not specifically validated for Romanian population, Lewczuk et al. (2024) examined and demonstrated the ASRS reliability and validity across different languages, countries, and genders (in 42 countries, but ultimately Romanian data are not presented). The Romanian translation, as used in the mentioned study, is available in Bőthe et al. (2021), out of which we used the 6 most predictive items of ADHD (short version) for this study.

3.4. Procedure

The current cross-sectional study has been conducted at the end of first semester of the academic year 2024–2025. Data was collected in February 2025, by administering a self-reported online questionnaire using Google Forms platform, based on voluntary participation of students, with the possibility to request bonus points in one discipline (for the first-year students) or two disciplines (for the second-year students, in blended learning format). The link for the form, together with the invitation to participate in the study, were posted on the groups of students, intermediated by the year coordinator of students. To grant the bonus points and subsequently complete the data for another study with academic results, we asked the students to provide the enrolment number at the study program, with the mention that il will not be associated with their name, but only with the displayed

centralizers at the end of semester or academic year. Thus, their participation was not completely anonymous, but we ensured strict confidentiality (with pseudonymization). We also mentioned the analyses will be made only for the entire group of participants, not having the purpose of analyzing the individual responses of the participants. Considering the multitude of items in the form and the risk for giving fast answers to not-read questions, we introduced two items for attention check, inspired from Bőthe et al. (2021) study, inserted in different stages of completion. The items are <*We assess your level of attention. Answer this question with "strong agreement"*> and <*It is important to read the questions and statements, answer "often" to this question.*>. The reason was to exclude protocols with substantial risk of random answers. The instruments and procedure are similar with a previous study conducted in 2023-2024 academic year (presented in Răcășan, 2024), in a different and smaller group of students.

Quantitative data was analyzed using descriptive and inferential statistical methods. Data collection was facilitated through Google Forms, with initial data summaries generated using its built-in reporting tools. Microsoft Excel was used for data organization and preparation, preliminary analysis and visualization. The statistical software IBM SPSS Statistics and Jamovi (Version 4.4; The Jamovi Project, 2024) was utilized for advanced analysis.

4. Results

4.1. Academic engagement indicators within the group of participants

The distributions of all five variables related to academic participation and engagement show a negative asymmetry, indicating that participants generally reported high levels of attendance and proactive engagement in academic activities. The strongest asymmetry occurs in the case of the item "*I did the important assessment tasks on time*" (Skewness = -1,910), accompanied by a high kurtosis (3,430), with a strong concentration of responses around the maximum value of 7. In our group of participants 67% managed to complete important assessment tasks on time, while 33% had lower levels of agreement with the affirmation. For the composite variable generic participation (percentage of attendance in academic activities), the mean (0.787) and median (0.850) also describe a marked negative asymmetry, with the Skewness indicator (= -1.233) confirming the same trend. Positive Kurtosis (0.970) indicates a more pointed distribution, with a concentration of high responses around the mean and the median, respectively, indicating a participation at activities around 80% in the case of many participants.

4.2. Emotional distress, ADHD and dyslexia incidence within the group and comparison of FT and BL subgroups

This section presents rates of mental health difficulties and dyslexia indicators in active undergraduate educational sciences students at University of Oradea and comparisons between FT and BL groups of students. Additionally to dyslexia, four key indicators were assessed in terms of mental health status: levels of depression, anxiety, and stress, as well as the probability and score of ADHD.

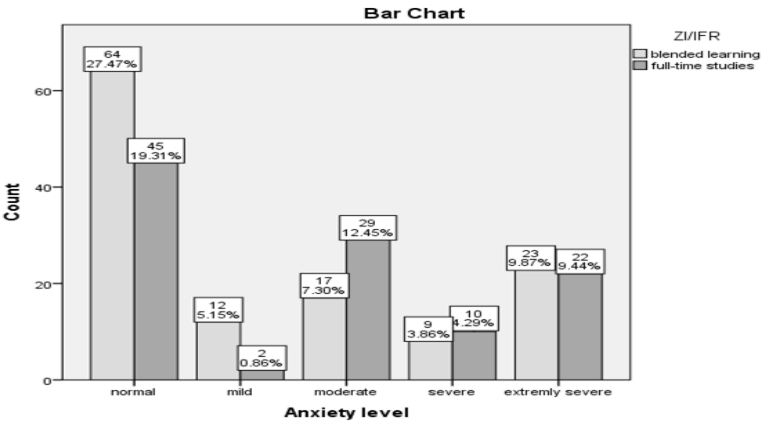
Regarding *depression*, most students reported normal levels (73%), with a slightly higher proportion observed among BL students (38.20%) compared to those in FT studies (35.19%). However, 27% of the participants showed different depression levels (12% mild, 7% moderate and 8% severe), with a marginally greater percentage of BL students reporting severe depression levels (6% from the whole group) than FT students (2.15%). The distribution of FT and BL students is very similar across depression levels, with no statistically significant differences between groups.

Anxiety levels revealed for the entire group were as follows (Figure 1):

- 47% fell into the normal range, 27.47% BL students and only 19.31% FT students,
- 53% showed different levels of anxiety (7% mild, 20% moderate, 8% severe and 19% extremely severe),
- mild anxiety was notably more common in BL students (5%, vs. 1% in FT students), while moderate anxiety was more common in FT students (12.45%, vs. 7.30% in BL students).

Figure 1

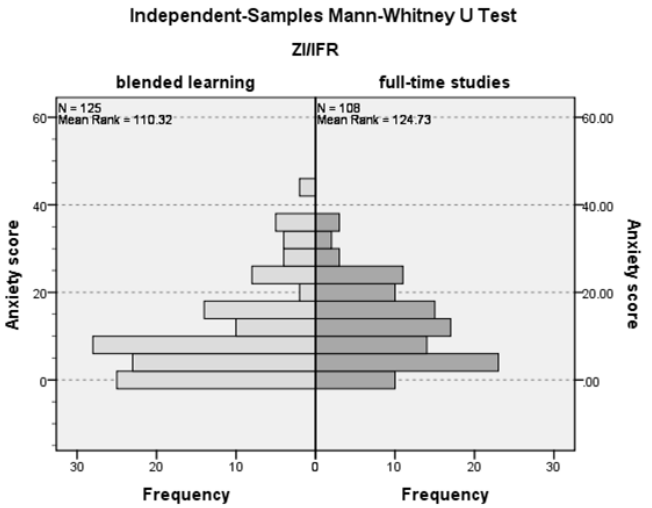
Anxiety levels within the group and BL compared to FT students



A Mann–Whitney U test was conducted to examine whether anxiety scores differed between students in blended learning and full-time study formats. The results indicated no statistically significant difference in anxiety levels between the two groups, but as we can observe in Figure 1 and 2, the distributions differ as 61% of the BL group fall into the normal and mild range, while for the FT students only 44% present a normal or mild anxiety level.

Figure 2

Anxiety scores distributions within the group and BL compared to FT students



A median test was also conducted to determine whether the central tendency of anxiety scores differed between students in blended and full-time study formats. The results indicated a statistically significant difference, $\chi^2(1, N = 233) = 6.943$, $p = .008$. This confirms that the two groups do not share the same median anxiety score, and the distribution of scores differs meaningfully with respect to central tendency.

Stress levels followed a similar trend with anxiety, most students reporting normal levels of stress (70%). A higher proportion of BL (39.91%) reported normal stress levels compared to FT students (30.04%), while the latter group exhibited slightly higher frequencies of moderate and severe stress levels (6% and 7% for FT students, 3% and 3,4% in BL students, plus 3% extremely severe for BL students). Mann–Whitney U test revealed a statistically significant difference between students in blended learning and full-time study formats, $U = 5712.50$, $Z = -2.030$, $p = .042$.

In terms of *ADHD probability*, 90.1% of students were categorized as having a low or absent risk, while 9.9% were identified as having a positive risk. The learning format did not make a difference and the result suggests that approximately one in ten students may exhibit symptoms of ADHD warranting further evaluation.

The distribution of the level of *dyslexia* among the participants reveals a very low prevalence of specific symptoms. Specifically, 99.1% of the students (n = 231) were classified in the "absent or low level" category of dyslexia, while only 0.9% (n = 2) had moderate symptoms. There were no cases of severe symptoms in the sample analyzed (N = 233). These data suggest that, within this educational sciences study group, dyslexia is not a major educational risk factor, and the prevalence of symptoms is almost negligible. However, the presence of even a small number of cases with moderate symptoms justifies the importance of continuous screening and adaptive support mechanisms to prevent potential learning difficulties in affected students.

As assumed according to hypothesis 1, self-reported symptoms of ADHD, depression, anxiety, and stress present high incidence among educational sciences students. Still, in the case of dyslexia, the hypothesis was not supported.

Also, hypothesis 2 was partly supported, while anxiety, and stress levels differ significantly between FT and BL students, but in the case of depression there were not significant differences between groups.

4.3. Mental health related to academic engagement

The analysis of associations between mental health indicators (levels of depression, anxiety, stress, dyslexia and ADHD) and academic engagement indicators revealed significant negative correlations with most indicators of academic engagement, as assumed through hypothesis 3. As we will see below, the hypothesis was supported for most indicators of academic engagement, except for attendance in academic activities (Table 2).

Table 2

Relations of academic engagement indicators with psychological variables (emotional distress, ADHD and dislexia scores)

Academic engagement indicator		Depression score	Anxiety score	Stress score	ADHD score	Dislexia score
Percentage of attendance in academic activities (self-estimated, medium).	ρ	-.006	.018	-.036	-.020	-.077
	Sig.	.924	.783	.588	.766	.247
	N	228	228	228	228	228
I have thoroughly and completely	ρ	-.219**	-.149*	-.253**	-.099	-.207**

studied the courses.	Sig. N	<.001 233	.023 233	<.001 233	.130 233	.001 233
I have fully gone through the course materials.	ρ Sig. N	-.193** .003 233	-.123 .060 233	-.126 .054 233	-.045 .492 233	-.132* .043 233
I completed important assessment tasks on time (e.g., projects, ongoing assignments, control tasks).	ρ Sig. N	-.134* .042 233	-.036 .586 233	-.067 .310 233	-.076 .248 233	-.095 .150 233
I completed and responded to all recommended tasks by the instructors, including the optional ones.	ρ Sig. N	-.149* .023 233	-.069 .294 233	-.229** <.001 233	-.163* .013 233	-.214** .001 233

Attendance in academic activities (self-estimated) was not significantly correlated with any of the psychological variables, including depression (ρ = –.006, p = .924), anxiety, stress, ADHD, or dyslexia. This suggests that, within this sample, the frequency of participation in academic activities is not notably influenced by mental health or learning difficulties.

In contrast, *thoroughly and completely study of courses* showed significant negative correlations with depression (ρ = –.219, p < .001), anxiety (ρ = –.149, p = .023), and stress (ρ = –.253, p < .001), as well as with dyslexia (ρ = –.207, p = .001) scores. These results indicate that students experiencing higher levels of depressive and stress-related symptoms are less likely to engage in deep, comprehensive study. Although ADHD symptoms were not significantly correlated with this behavior (ρ = –.099, p = .130), the trend suggests a possible, though weak, negative relationship.

Similarly, *fully going through (reviewing) the course materials* was negatively associated with depression (ρ = –.193, p = .003) and dyslexia (ρ = –.132, p = .043), while correlations with anxiety and stress approached significance, but did not meet the threshold, indicating a weak link in this case.

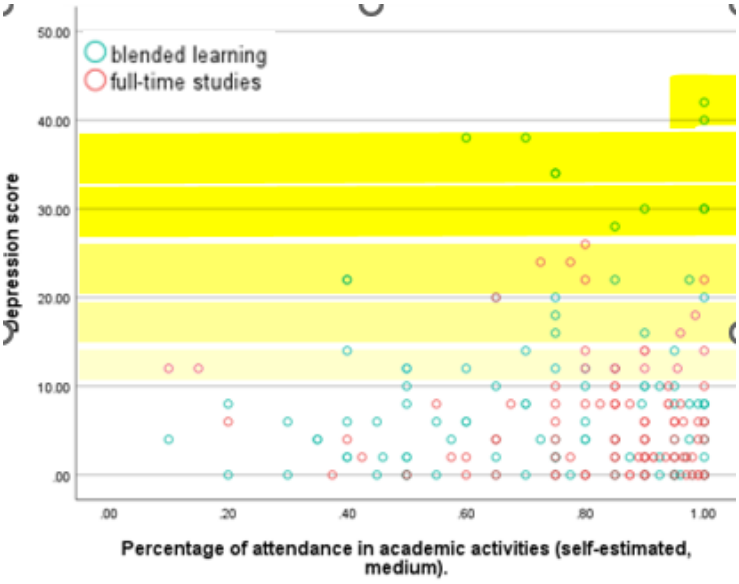
When looking at *timely completion of important assessment tasks*, only depression demonstrated a statistically significant, small, negative association (ρ = -.134, *p* = .042). This may suggest that depressive symptoms can mildly impair students' ability to meet deadlines, but that anxiety, stress, or ADHD symptoms do not significantly influence punctuality in this context.

The most consistent and widespread pattern of association emerged for *complete/ respond to all recommended tasks, including optional ones*, that correlated negatively with depression (ρ = -.149, p = .023), stress (ρ = -.229, p < .001), ADHD (ρ = -.163, p = .013), and dyslexia (ρ = -.214, p = .001). The cumulative interpretation is that students experiencing more psychological or learning difficulties are less likely to fully engage in academic tasks.

Symptoms of depression, ADHD, dyslexia, and, to a lesser extent, anxiety, are negatively associated with several forms of academic engagement, especially those related to deepening content and completing assignments. This may indicate the impact of psychological disorders on students' performance and engagement in academic activities. The self-estimated percentage of participation in academic activities was not significantly correlated with any of the psychological scores assessed. In the case of moderate to severe depression we would have expected lower participation to activities. As there could be relations that are not linear, we will check the correlation matrix.

Figure 3

Scatterplot of depression score and percentage of attendance to academic activities, with shades of yellow emphasizing mild, moderate and severe depression scores



Scatterplot indicates a faint negative trend between the self-estimated percentage of participation in academic activities and depression scores, especially among students in the BL format. Greater variability in depression scores is observed in students with medium or high attendance, where high scores are more common, although we would have expected a lower level of engagement to be associated with higher levels of depressive symptomatology. Students in the

BL form of education tend to show a higher concentration of values in the area of scores above 10 (indicating different levels of depression, as evidenced in Figure 3).

5. Discussions

This study examined the prevalence of self-reported symptoms of depression, anxiety, stress, ADHD, and dyslexia among Educational Sciences students at University of Oradea, along with their relationship to academic engagement indicators. The sample consisted of both full-time (FT) and blended learning (BL) students.

Results revealed that 9.9% of participants reported significant symptoms of ADHD, 1% reported symptoms of dyslexia, and 53% showed varying levels of emotional distress, with anxiety being the most prevalent. The findings suggest that ADHD and emotional distress are prevalent among educational sciences university students and could have a notable, partly masked negative impact on academic engagement.

5.1. Prevalence of Psychological and Learning Difficulties

The findings support the first hypothesis partially. A significant proportion of students reported emotional distress symptoms:

- Depression affected 27% of students to varying degrees.
- Anxiety was even more prevalent, with over 53% of students indicating some level of anxiety, and 19% reporting extremely severe levels.
- Stress levels were elevated in 30% of the participants.

These results are consistent with previous literature (e.g., DuPaul et al., 2015; Vlad et al., 2020), highlighting that emotional distress is a substantial issue in higher education, even more so in pedagogical training programs where future educators' mental health is critical for their professional preparedness.

The prevalence for depression, anxiety and stress is higher in our group than identified in other students' groups in Romania. For example, among dental medicine students in Cluj and Oradea (Rotaru et al., 2024), the prevalences ranged between 11 and 17% for depression (in our group was 27%), 28 and 50% for anxiety (during the winter session, similarly in our group, 53%), and 3.7 and 6.8% for stress (while in our group was much higher, with a 30% rate). These differences highlight a significant impact of emotional issues on educational sciences students.

In contrast, the prevalence of ADHD symptoms was moderate, at around 10%, aligning with previous global estimates but still indicating a meaningful subgroup that could benefit from targeted intervention (Du Rietz et al., 2023). Dyslexia symptoms were almost absent in our group (0.9% moderate symptoms), which contradicts prior findings that dyslexia often remains underdiagnosed in higher education (Heiman & Precel, 2003; Kirby et al., 2008). However, the low rate may reflect limitations of the screening tool or a truly small prevalence due to the specialization of most participants, pedagogy of preschool and primary school, which implies better literacy abilities.

5.2. Differences Between Full-Time and Blended Learning Students

The second hypothesis was partially supported. While depression levels did not significantly differ between FT and BL students, anxiety and stress levels did, with FT students exhibiting significantly higher anxiety and stress scores. This is a somewhat unexpected finding, as BL students generally carry heavier life burdens (e.g., work, parenting, commuting) that are often assumed to heighten stress (Garrison & Vaughan, 2008). A possible explanation is that BL students, being older and more experienced in time management and autonomy, might have developed better coping mechanisms or set more realistic academic expectations. Moreover, the structural and logistical flexibility offered by the blended format could play a role in stress moderation, despite the students' higher external demands. On the other hand, FT students, many of whom are younger and still adapting to university life, may lack effective self-regulation strategies, making them more vulnerable to anxiety and stress, especially around assessment periods.

5.3. Impact of Psychological and Learning Difficulties on Academic Engagement

The third hypothesis was largely supported. While no significant correlation was found between any psychological variable and attendance, more qualitative aspects of academic engagement were negatively affected by emotional and learning difficulties.

Students with higher levels of depression and stress were significantly less likely to study thoroughly, review course materials, or complete all

recommended tasks. Dyslexia and ADHD are also negatively correlated with engagement in extended academic tasks, such as responding to optional tasks or thoroughly engaging with course materials. The completion of important assessment tasks on time was only significantly associated with depression, indicating its potential to undermine motivation and time management.

Interestingly, attendance, as a more behavioral and externally influenced metric, was not associated with mental health variables. This suggests that students may maintain physical or online presence in class regardless of their emotional state, but deeper engagement and cognitive investment in coursework are more sensitive to psychological challenges. This distinction aligns with prior research on behavioral vs. cognitive engagement (Richardson et al., 2012).

Even if self-rated attendance was not associated in our group with psychological symptoms, but deep cognitive and behavioural involvement in the academic process (such as studying materials and completing assignments on tine) was negatively related to the presence of symptoms of depression, dyslexia, and ADHD, in particular. These findings are in line with research by Florescu et al. (2023), showing that the level of academic motivation, correlates negatively with the level of negative dysfunctional emotions.

Furthermore, a faint negative trend between depression scores and attendance was observed, particularly in BL students, hinting at potential non-linear or threshold effects not captured by basic correlation. Students might still attend classes but engage superficially or lack the capacity to absorb and apply the material due to emotional difficulties.

Although it is commonly assumed that depressive symptomatology correlates with lower academic engagement (Richardson et al., 2012), our findings indicate that students with medium or high self-reported attendance also exhibit greater variability in depression scores, including higher levels. This suggests that academic participation may not always reflect emotional well-being and that some students may maintain high attendance despite experiencing significant psychological distress (Beiter et al., 2015).

5.4. Limits

The study relied on self-reported data and the full form used for collecting data could be considered long, as around 15 minutes are required for its completion and participants' attention, and motivation could be difficult to maintain in the last part of the questionnaire. Being aware of the random answers high risk, we introduced three items for attention check, two of them inspired from Bőthe et al. (2021) (*We assess your level of attention. Answer this question with "strong agreement"* and *"It is important to read the questions and statements, answer "often" to this question"*) to exclude the high-risk protocols. Also, the participation was not completely anonymous, but we ensured strict confidentiality with pseudonymization.

6. Conclusions

Overall, the findings demonstrate that depression, anxiety, and stress have the most consistent and significant negative relationships with academic engagement, particularly with in-depth study behaviors and task completion. Dyslexia and ADHD symptoms also appear to reduce student's likelihood of engaging in optional and more cognitively demanding academic tasks, although these associations are generally weaker. Attendance to educational activities, however, appears largely unaffected by mental health or learning difficulties. These results underscore the need for supportive interventions that address both emotional well-being and executive functioning skills, particularly for students struggling to meet academic expectations beyond basic participation. As Bochiș et al. (2022) emphasize, the efforts of teachers in educational institutions and school counselors should also be directed toward addressing the methods that increase the level of intrinsic and identification motivation, thus helping to maintain a positive attitude toward self, others, and student life, even in difficult situations.

In the context of learning difficulties, as it still is in the pre-university education system in Romania where children need additional support, but for most this it is not accessible due to financial constraints, the class teacher is the only one that can help them and has to adapt the curriculum and perform an individualized instruction (Barth & Florescu, 2016), for university students the situation is similar and teachers should be encouraged to apply universal design for learning principles and, if necessary, personalize different aspects of learning process for these students.

Generally, institutional policies should prioritize flexibility in attendance and assessment without compromising academic rigor, as adult students remain committed to learning even when struggling with time constraints. Future research should explore how specific forms of institutional support (e.g.,

asynchronous learning, alternative or equivalent tasks for compensating absences, alternative assignments, increased access to online resources or tutoring) can enhance engagement and support work-life balance for students with high life responsibilities. Some specific implications for educational strategies based on the findings from the current study would be:

- Non-traditional students, such as those who are older or have significant family and work responsibilities, could benefit from support strategies such as extended deadlines, alternative or differentiated tasks, or even targeted academic support services.
- The prevalence of emotional distress and learning difficulties such as ADHD among students highlights the need for targeted interventions. Educational institutions should implement screening processes to identify students with learning difficulties and provide appropriate adaptations and support. This can include extended deadlines, alternative tasks and assessment methods, and tutoring.
- We also found increased rates of emotional distress and ADHD risk, and significant negative correlations between mental health issues (such as depression, anxiety, and stress) and academic engagement. This emphasizes the need for available mental health support services within educational institutions, eventually stress management workshops, and accessible mental health resources.
- Also, the strong correlation between timely assessment task completion and academic engagement suggests that students who are proactive and organized tend to perform better academically. Educational strategies should focus on developing students time management and organizational skills, eventually through workshops, personalized coaching, and the integration of time management tools within the learning system (e.g. academic electronic calendars, task-analysis for important assessments).

These strategies can help create a more inclusive and supportive educational environment, leading to improved academic outcomes and student satisfaction.

Authors note:

Karla Melinda Barth - PhD, Professor at the University of Oradea, Department of Educational Sciences, Dean of the Faculty of Social and Humanistic Sciences from 2016. Author and co-author of 5 books, editor and coordinator of 11 collective volumes. She wrote more than 60 articles in journals, proceedings of international conferences, and collective volumes. Her research interests are education, inclusive education, speech therapy, and the inclusion of children with disabilities. She coordinated or was a member of several national or international research projects.

Marius Țepelea - PhD, Professor at the University of Oradea, Department of Theology. Author and co-author of 12 books. He wrote more than 60 articles in journals, proceedings of international conferences, and collective volumes. His research interests are education, inclusive education, history, history of education. He was involved in several national or international research projects.

Raluca Răcășan - PhD, Lecturer at University of Oradea, Department of Educational Sciences, Faculty of Social and Humanistic Sciences since 2016. Teaches subjects in the field of special psychopedagogy, author of one book, author or co-author of over 10 chapters in books and around 20 international articles, with a research activity focused on disability, inclusion and adult education. She is involved as a member in local and international projects.

References

Accardo, P. J., Haake, C., & Whitman, B. (1989). *Attention deficit disorders and learning disabilities: A clinical guide to diagnosis and treatment*. Brookes Publishing.

Auerbach, R. P., Alonso, J., Axinn, W. G., Cuijpers, P., Ebert, D. D., Green, J. G., Mortier, P., Nock, M. K., Pinder-Amaker, S., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2016). Mental disorders among college students in the World Health Organization World Mental Health Surveys. *Psychological Medicine, 46*(14), 2955–2970. https://doi.org/10.1017/S0033291716001665

Barth, K., & Florescu, C. (2016). The Management of Learning difficulties in classroom. *European Proceedings of Social and Behavioural Sciences, 23*, 1112-1118.

Beiter, R., Nash, R., McCrady, M., Rhoades, D., Linscomb, M., Clarahan, M., & Sammut, S. (2015). The prevalence and correlates of depression, anxiety, and stress in a sample of college students. *Journal of Affective*

Disorders, 173, 90-96. https://doi.org/10.1016/j.jad.2014.10.054

Bochiş L., & Florescu M. C. (2018). *Association relationship between academic performance, test anxiety and personality traits of the students*. in Proceedings of the EDULEARN18 (pp. 6714–6720). IATED Academy. https://doi.org/10.21125/edulearn.2018.1593

Bochiş, L. N., Barth, K. M., & Florescu, M. C. (2022). Psychological variables explaining the students' self-Perceived well-being in university, during the pandemic. *Frontiers in psychology*, *13*, 812539. https://doi.org/10.3389/fpsyg.2022.812539

Bőthe, B., Koós, M., Nagy, L., Kraus, S. W., Potenza, M. N., & Demetrovics, Z. (2021). International sex survey: study protocol of a large, cross-cultural collaborative study in 45 countries. *Journal of Behavioral Addictions*, *10*(3), 632-645. https://doi.org/10.1556/2006.2021.00063

Du Rietz, E., Coleman, J. R. I., Glanville, K., Aragam, K. G., Hall, C. L., Riglin, L., ... & Thapar, A. (2023). Prevalence of attention-deficit/hyperactivity disorder in university students: A systematic review and meta-analysis. *European Child & Adolescent Psychiatry*. https://doi.org/10.1007/s00787-023-02213-5

DuPaul, G. J., Weyandt, L. L., O'Dell, S. M., & Varejao, M. (2009). College students with ADHD: Current status and future directions. *Journal of Attention Disorders*, *13*(3), 234-250. https://doi.org/10.1177/1087054709340650

Florescu, M. C., Bochiș, L. N., Barth, K. M., & Indrieș, M. (2023). Can dysfunctional negative emotions explain students' level of academic motivation in online learning at university?. R*evista Romaneasca pentru Educatie Multidimensionala [Romanian Journal for Multidimensional Education]*, *15*(2), 55-72. https://doi.org/10.18662/rrem/15.2/720

Garrison, D. R., & Vaughan, N. D. (2008). *Blended learning in higher education: Framework, principles, and guidelines*. Jossey-Bass.

Glenn, C., Moulton, P., Callahan, C. M., & Peters, S. (1988). Coping strategies of university students with learning disabilities. *Journal of Learning Disabilities*, 30(4), 415-421.

Heiman, T., & Precel, K. (2003). Students with learning disabilities in higher education: Academic strategies profile. *Journal of Learning Disabilities*, 36(3), 248-258. https://doi.org/10.1177/002221940303600304

Kavkler, M., Magajna, L., Babuder, M. K., Janželj, L., Andrejčič, M., & Zemljak, B. (2010). *Ghid pentru studenţii dislexici [Guide for dyslexic students]*. Presa Universitară Clujeană. https://ro.scribd.com/document/52780818/114-E-Book-Manual-Studenti

Kirby, J. R., Silvestri, R., Allingham, B. H., Parrila, R. K., & La Fave, C. B. (2008). Learning strategies and study approaches of postsecondary students with dyslexia. *Journal of Learning Disabilities*, *41*(1), 85-96. https://doi.org/10.1177/0022219407311040

Knight, C. (2018). Dyslexia in higher education: Students' experiences of support and strategy use. *Journal of Learning Disabilities*, *51*(4), 381–390. https://doi.org/10.1177/0022219417704168

Lovibond, S.H. & Lovibond, P.F. (1995). *Manual for the Depression Anxiety Stress Scales*. (2nd. ed.) Sydney: Psychology Foundation

Mayes, S. D., Calhoun, S. L., & Crowell, E. W. (2000). Learning disabilities and ADHD: Overlapping spectrum disorders. *Journal of Learning Disabilities*, *33*(5), 417–424. https://doi.org/10.1177/002221940003300502

Mugnaini, D., Lassi, S., La Malfa, G., & Albertini, G. (2009). Internalizing correlates of dyslexia. *World Journal of Pediatrics*, *5*(4), 255–264. https://doi.org/10.1007/s12519-009-0049-7

Nelson, J. M., & Harwood, H. R. (2011). Learning disabilities and anxiety: A meta-analysis. *Journal of Learning Disabilities*, *44*(1), 3-17. https://doi.org/10.1177/0022219409359939

Perțe, A. (2013). *Perte translation of the DASS21*. http://www2.psy.unsw.edu.au/groups/dass/Romanian/Perte.htm, la 15.02.2014

Răcășan, R. (2024). Methodology for exploring academic performance factors of students in Pedagogy of Primary and Preschool Education, blended learning [PPPEbl]. *Romanian Journal of School Psychology*, *17*(33-34), 31-44, https://www.ceeol.com/content-files/document-1392903.pdf?utm_source=chatgpt.com

Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological Bulletin*, *138*(2), 353-387. https://doi.org/10.1037/a0026838

Rotaru, D. I., Chișnoiu, R. M., Bolboacă, S. D., Gileru, E. A., Chișnoiu, A. M., & Delean, A. G. (2024). Insights into self-evaluated stress, anxiety, and depression among dental students in Romania: A comparative study between two university centers. *Scientific Reports*, *14*(1), 1125.

Snowling, M., Dawes, P., Nash, H., & Hulme, C. (2012). Validity of a protocol for adult self-report of dyslexia and related difficulties. *Dyslexia*, *18*(1), 1-15.

Vlad, R., Golu, F., Toma, A., Drăgănescu, D., Oprea, B., & Chiper, B. I. (2020). Depression and anxiety in Romanian medical students: Prevalence and associations with personality traits. *Farmacia*, *68*(5), 123–130. 10.31925/farmacia.2020.5.24

Walters, J., & Croen, L. G. (1993). Accommodations for students with learning disabilities in higher education. *Journal of Learning Disabilities*, *26*(4), 217-219.