Revista Românească pentru Educație Multidimensională
ISSN: 2066-7329 | e-ISSN: 2067-9270
Covered in: Web of Science (WOS); EBSCO; ERIH+; Google Scholar; Index Copernicus; Ideas RePeC; Econpapers; Socionet; CEEOL; Ulrich ProQuest; Cabell, Journalseek; Scipio; Philpapers; SHERPA/RoMEO repositories; KVK; WorldCat; CrossRef; CrossCheck

2024, Volume 16, Issue 2, pages: 642-665 | https://doi.org/10.18662/rrem/16.2/877
Submitted: March 23rd, 2024 | *Accepted for publication:* April 1st, 2024

The Relationship between Academic Stress and Dropout Intention of University Students: The Mediating Role of Teacher and Family Support

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Abstract: *This study aims to evaluate the impact of teacher and family support on academic stress and students' dropout intention and the mediating role of teacher and family support in the relationship between academic stress and students' intention to leave school. The study used a descriptive cross-sectional survey method. Data were collected through a questionnaire, and a random sampling technique was used to obtain 921 respondents. SPSS 26.0 statistical software was used to analyze survey data; descriptive statistics, inferential statistics, and mediate variable analysis using the bootstrapping method were calculated to prove the hypotheses. Research results show that teacher support has a significant direct effect on academic stress (β = -.155, p<0.01), family support has a significant direct effect on dropout intention (β = -.092, p< 0.01), academic stress has a significant direct effect on dropout intention with a sizable effect size (β = .388, p<0.01), there is no direct impact from family support on academic stress (β = .037, p> 0.05), and teacher support has not a significant direct effect on dropout intention (β =- .021, p>0.05). Teacher support and family support do not have a mediating role in influencing the relationship between academic stress and students' intention to leave school. The research results improve the quality of higher education by promoting family and teacher support to control students' academic stress and limit the dropout intention rate.*

Keywords: *academic stress; dropout intention; teacher support; family support; university students; Vietnam.*

How to cite: Van, T. P. (2024). The relationship between academic stress and dropout intention of university students: the mediating role of teacher and family support. *Revista Românească pentru Educație Multidimensională, 16*(2), 642-665. https://doi.org/10.18662/rrem/16.2/877

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Introduction

Studying at university is a process of research and practice to develop professional capacity, become a future worker, and contribute to the development of society (Tuan, 2020; Feng & Zhang, 2022). The university learning environment is new, complex and difficult (Arguel et al., 2017; Lodge et al., 2018; Agyekum, 2023; Bernardo et al., 2023), these difficulties can lead to various problems in students, including mental health issues (Yikealo et al., 2018; Mofatteh, 2020; Hernández-Torrano et al., 2020; Campbell et al., 2022). When mental health problems in general and academic stress in particular arise, they can negatively impact students' health, quality of life, and academic performance (Ícaro et al., 2018; Tus, 2020; Barbayannis et al., 2022; Rehman et al., 2023), and is one of the factors leading to intention to leave and drop out of school (Kim, 2021; Abreu Alves et al., 2022; Peng et al., 2023). Many recent reports and studies have found that it is not uncommon for students to choose to drop out of school at some point during their university studies and is common among fifth-year students. Students' dropout not only affects their career future but also negatively impacts the functioning of universities and society (Cornelius, 2020; Bernardo, 2020; Schnettler et al., 2020; Yaranay et al., 2022; Véliz et al., 2023; Binh, 2023). Coping effectively with stress while studying is very important and meaningful in preventing student's dropout intention and move out of school (Dada et al., 2019; Urvi & Douglas, 2023).

There have been many different studies on academic stress (Pascoe et al., 2020; Yang et al., 2021) on intention to leave school (Yaranay et al., 2022; Véliz et al., 2023) and related factors (Trigueros et al., 2020; Aiman et al., 2020; Tayebi, 2021; Jeno et al., 2023; Peng, 2023), but there has not been much research on the impact factors, especially the impact of teacher support and family support on this relationship. The purpose of this study is to evaluate the relationship between teacher support and family support with academic stress and students' intention to leave school, as well as the mediating role of teacher and family support on the relationship between academic stress and dropout intention. The research results contribute to increasing awareness and promoting social support to help students limit the level of stress in studying and reduce the rate of students intending to leave school and drop out.

Theoretical basis and research model

Academic stress of students

Mental health problems in general, and academic stress in particular, are quite common among college students (Fawzy, 2017; Gurung et al., 2020; Trigueros et al., 2020; Pascoe, 2020; Yang et al., 2021) it has a negative impact on students' academic performance (Tus, 2020; Rehman et al., 2023) and is one of causes of dropout (Eicher et al., 2014; Marôco et al., 2020; Noman et al., 2021). Academic stress is understood as a psychological expression caused by academic and social pressures (Misra & Castillo, 2004; Neseliler, 2017), it is a complex problem that includes many emotional, social, and academic stressors (Misra & McKean, 2000). Researchers measure academic stress in many different aspects to personal expectations, worrying about grades, and being overloaded with academic tasks (Sun et al., 2011). Academic workload, financial struggles, fear of not succeeding (Aihie & Ohanaka, 2019); teachers' behavior and teaching styles (Trigueros et al., 2020); Difficulty in-class work, high expectations, examinations anxiety, bullying, social comparison, poor relationships with friends, domestic violence (Aiman et al., 2020) are confirmed to be the main factors leading to academic stress among students. The student management department needs to have a support strategy as well as the students themselves need to learn how to control and cope with stress while studying (Ma & Del, 2023). Task-oriented coping (Morento et al., 2024), mindfulness (Gallego et al., 2014; Maharana et al., 2023), time management (Yanina et al., 2020) are strategies and solutions to effectively cope with stress in studying.

Dropout intention of students

Dropping out of university is one of the complex issues that deserves attention in higher education today, it leads to negative impacts on students, families, universities and society (Arzola, 2019; Bernardo, 2023; Yaranay et al., 2022; Véliz et al., 2023). Intention to drop out is part of a student's decision-making process during the college experience, especially in the first year of the process (Stinebrickner & Stinebrickner, 2014). Intention to drop out as a sign of action tendencies is associated with students' perceptions and attitudes toward learning (Morales and Correa, 2017). Intention to drop out refers to the thought and desire to leave a training program or school (Díaz-Mujica et al., 2018). Various factors have been identified as reasons for intention to drop out of school and rates of attrition, such as the quality of student services and opportunities for self-expression (Woodard et al., 2001); dissatisfaction with the training program

and extracurricular activities (Bardach et al., 2020); unclear learning goals, boredom, stress and anxiety in learning (Noman et al., 2021); lack of interest in learning, low academic achievement, financial problems, etc. (Tayebi et al., 2021); autonomous motivation and competition (Jeno et al., 2023).

Teacher support to students

A quality university environment, professional teaching staff and good relationships will provide effective educational resources for students (Cassidy, 2004). Besides family, factors from school directly affect student development. In particular, teachers are a very influential factor (Feng & Zhang, 2022). Teacher support is one of the extremely important social supports that impacts students' academic performance, academic engagement, as well as psychological and mental health (Zhang et al., 2019; Sun et al., 2021; Feng & Zhang, 2022; Stine, 2022). Teacher's support is understood as the help, guidance, and feedback that teachers give to students (Wang, 2009) in terms of autonomy support, emotion support and competency support (Connell & Wellborn, 1991), it reflects the quality of the teacher–student interaction (Zhang et al., 2019). Many studies show that students who receive support from teachers often show respectful attitudes and comply with rules, have positive emotions, are motivated and engaged in learning (Chiu & Chow, 2011; Longobardi et al., 2016; Ruzek et al., 2016; Kaplan, 2018; Descals-Tomás, 2021), on the contrary, students who receive little attention often show a lack of cooperation and participation (Miller et al., 2000).

Family support to students

Family support is one of the aspects of social support (Zimet et al., 1988). Family support can include emotional support, financial support, social support (Jabbar et al., 2019; Hado & Friss Feinberg, 2020; Vachkova et al., 2022; Fauziah et al., 2022). Family support in particular and social support in general are extremely important and closely related to student academic achievement (Richardson et al., 2012; Vander Zanden, 2018), it has special significance for first-year students because this is the transition period from high school to university (Rodríguez et al., 2017; Mkonto, 2021). Support from family members is an important resource to help students overcome personal and academic difficulties (Jabbar et al., 2019). Students who receive support from their families often have positive academic results (Luna & Martinez, 2013; Roksa et al., 2019), have higher levels of psychological well-being, and are more active in their social participation (Roksa et al., 2019).

The relationship between support from teachers and families and academic stress, dropout intention of university students

Many studies have confirmed that teacher support and family support are closely related to academic stress and students' intention to leave school. Teacher support is significantly correlated with academic emotions, including positive and negative emotions (King et al., 2012; McMahon et al., 2013; Liu, 2016). Social relationships with teachers play an important role in student stress (Wentzel et al., 2017). Teacher support is associated with a higher ability to cope with stress, with students who receive positive support from teachers having lower levels of stress (Hoferichter et al., 2022). Hoferichter (2021) also found that support from teachers can limit the increase of student academic burnout. Besides teacher support, family support also plays an important role in helping students fight academic stress. The more of social support, the less of stress (Cohen & Wills, 1985; Levens et al., 2016; McLean et al., 2022). In many studies, the support of teachers and families was found to be significant in reducing the rate of students dropping out of school. Parental support has the strongest association with student engagement (Ansong et al., 2017).

From the above analysis, it can be seen that there have been quite a few studies on academic stress, teacher support, family support, university students' intention to leave school and the relationship between them. However, there are no studies on teacher and family support as mediating factors of the relationship between educational stress and intention to leave school. Inheriting previous studies and to address this gap, we propose the following research model:

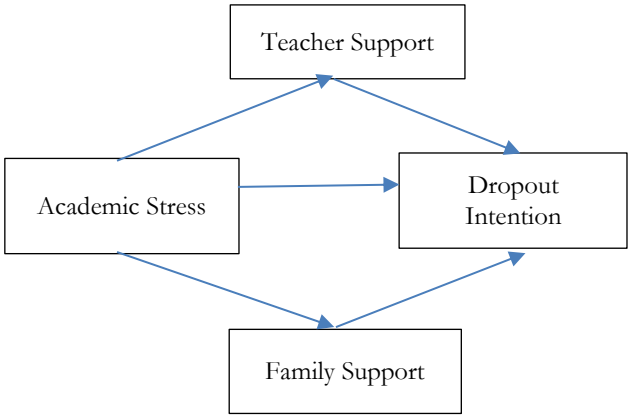


Figure 1. Proposed research model

This research focuses on proving the following hypotheses:

H1. Teacher support directly impacts students' academic stress.

H2. Family support directly impacts students' academic stress.

H3. Teacher support directly impacts students' dropout intention.

H4. Family support directly impacts students' dropout intention.

H5. Academic stress directly impacts students' dropout intention.

H6. Academic stress impacts students' dropout intention through teacher support.

H7. Academic stress impacts students' dropout intention through family support.

Method

Design

This study was conducted as a quantitative, cross-sectional study. We establish research models and hypotheses based on theoretical foundations and research overview. Research data was collected through questionnaires with content related to the variables of the topic. Participants were randomly selected and were asked to complete a consent form to participate in the study. Data collected from the questionnaire is processed with statistical software and scientifically analyzed, thereby drawing conclusions and proving research hypotheses.

Sample

The study sample size was selected according to the overall estimation method based on the opinion of Hair et al. (2014) and Green & Salkind (2008). Hair (2014) suggests that the minimum sample size for using EFA is 50, preferably 100 or more. According to Green & Salkind (2003), the minimum sample size is 50 + 8m (m is the number of independent variables participating in the regression). This study had a total of 04 variables, and with a total of 921 participants answering the questionnaire, showing that the study sample size met the requirements. The sample of 921 students participating in the study was randomly selected from universities in Vietnam.

Measurement

The variables of the topic are measured through scales that have been developed and used in research by authors in Vietnam and around the world.

Academic Stress

Educational Stress Scale (ESC) was developed and standardized by Sun and colleagues in 2011, this scale includes 16 items, each item included a 5-point Likert-type ranging from 1-5. The questionnaire has good internal consistency, with Cronbach's = 0.82 for the total scale and Cronbach's = 0.65 to 0.79 for the five factors. Participants were asked to self-assess their experiences of stress while studying. Higher scores indicate greater stress. In this study, Cronbach's Alpha of the total scale = 0.910 and no items had Cronbach's < 0.30.

Dropout Intentions

We use the Course Dropout Intention Scale (CDIS) developed and validated by Yupanqui-Lorenzo and colleagues in 2024. The scale content includes 4 items. Participants are asked to choose one of five answer options that apply to them in a 5-point Likert-type ranging from 1- strongly disagree to 5 - strongly agree. High scores are a sign of students' strong intention to leave school. Cronbach's Alpha of the scale in this study = 0.911, Cronbach's of the items from 0.78 to 0.80. Thus, the scale ensures the necessary reliability.

Teacher Support Scale

Teacher Support Scale (TSS) was developed by Metheny et al. (2008). This scale includes 21 items using a 5-point Likert scale ranging from 1 - strongly disagree to 5 - strongly agree. The scale includes four subscales: interested, positive regard, expectation, and accessible. Many studies have used and reported that the scale is reliable (Perry et al., 2010; Lazarová et al., 2019). The statistical data of this study shows that Cronbach's Alpha of the scale is 0.98.

Family Support

To measure the receipt of Family Support (FSS) of the students participating in this study we used the "family support" subscale of the social support scale developed by Zimet et al (1988). The family support subscale includes 4 items. Research participants will choose their level of agreement with each item on a 5-point Likert scale, from 1- Strongly disagree to 5- Strongly agree. Higher scores indicate greater levels of family support. According to statistical results, Cronbach's Alpha of the family support subscale in this study = 0.923, Cronbach's of the items ranges from 0.78 to 0.87.

Data analysis

We use SPSS 26.0 statistical software to analyze survey data. The reliability and validity of the scales was tested by Cronbach's Alpha and EFA analysis. Pearson correlation analysis to determine the relationship between variables: academic stress, teacher support, family support, and students' dropout intention. Univariate regression analysis and intermediate variable analysis using the Bootstrapping method (in PROCESS Macro for SPSS) were used to test the research hypotheses.

Results

Characteristics of the study sample

Table 1. The demographic distribution of the participants

		n	*%*
Gender	Male	233	25.3
	Female	657	71.3
	Others	31	3.4
	Total:	***921***	***100***
Major	Health science	87	9.4
	Society - Humanities	128	13.9
	Design - Art	542	58.8
	Technology - Engineering	53	5.8
	Business - Management	111	12.1
	Total:	***921***	***100***
Year of university	First-year student	360	39.1
	Second-year student	262	28.4
	Third-year student	299	32.5
	Total:	***921***	***100***
Learning outcomes (GPA)	Outstanding	08	.9
	Very Good	222	24.1
	Good	526	57.1
	Average	149	16.2
	Below average	16	1.7
	Total:	***921***	***100***

Statistics in Table 1 show that, of the 921 participants in this study, 71.3% were female, 25.3% were male and 3.4% were of other genders. The study participants' majors also had a diverse distribution: 58.8% Design - Art students, 13.9% Society - Humanities students, 12.1% Business - Management students, 9.4% Health science students and 5.8% Health science students. Technology – Engineering member. The ratio of first year, second year and third year students is quite balanced: 39.1%, 28.4 and 32.5%. The majority of students reported their academic results (GPA) in recent semesters as "Good" – 57.1%, followed by "Very Good" – 24.1%, "Average" – 16.2%, "Below average" – 1.7% and "Outstanding" – 0.9%. Participants in this study had an average age of 19.3 years. A fairly large sample size along with a diverse distribution of demographic characteristics of research participants as above will contribute to ensuring the reliability of the research results.

Check the reliability and validity of the scales

Table 2. The results of Cronbach's Alpha analysis

Scales	Observed variables	Cronbach's Alpha
Academic Stress (ASS)	**16 items**: ASS1 to ASS16	0.910
Teacher Support (TSS)	**21 items**: TSS1 to TSS21	0.981
Family Support (FSS)	**04 items**: FSS1 to FSS4	0.923
Dropout Intention (DIS)	**04 items:** DIS1 to DIS4	0.911

Cronbach's Alpha analysis data in Table 2 shows that Cronbach's Alpha of all 4 scales is greater than 0.90 and no observed variable/item in the scales has a total correlation of variables < 0.30. These data confirm that the scales have good reliability.

Table 3. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.955**
Bartlett's Test of Sphericity	Approx. Chi-Square	35501.645
	df	703
	Sig.	**.000**

In the second factor analysis with factor loading < 0.50, the results in Tables 3 show that KMO = 0.955 > 0.5, sig Bartlett's Test = 0.000 < 0.05, so EFA exploratory factor analysis is appropriate.

Table 4. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	16.228	42.706	42.706	16.228	42.706	42.706	15.280	40.210	40.210
2	5.599	14.733	57.439	5.599	14.733	57.439	4.903	12.902	53.112
3	2.646	6.963	64.402	2.646	6.963	64.402	3.331	8.766	61.877
4	2.236	5.885	70.286	2.236	5.885	**70.286**	3.195	8.409	70.286
5	.952	2.504	72.790						
6	.859	2.261	75.051						
7	.787	2.072	77.123						
8	.707	1.861	78.984						

Extraction Method: Principal Component Analysis.

In the Tables 4, there are 4 factors extracted with a total cumulative variance of 70.286%. The remaining 38 observed variables converge into 04 factors:

- Factor 1 converges 21 observed variables measuring Teacher Support.
- Factors 2 converge 09 observed variables measuring Academic Stress.
- Factor 3 converges 04 observed variables measuring Family Support.
- Factor 4 converges 04 observed variables measuring Dropout Itention.

Correlation analysis

Table 5. The results of correlation analysis between variables

	M	*SD*	**1**	**2**	**3**	**4**
1. Academic Stress	4.2461	1.44044	1			
2. Teacher Support	3.5442	.86479	-.155**	1		
3. Family Support	4.8523	1.60194	.037	.440**	1	
4. Dropout Itention	2.3056	1.14734	.388**	-.022	-.092**	1

Notes: **: p < 0.01.

The data in Table 5 shows that Teacher Support has a statistically significant correlation with Academic Stress (r=-.155, p<0.01), Family Support and Teacher Support (r=.440, p<0.01), Academic Stress and Dropout Itention (r=.388, p<0.01), Family Support and Dropout Itention (r=.092, p<0.01). There is no statistically significant correlation between Family Support and Academic Stress (r=.037, p>0.05), Teacher Support and Dropout Itention (r=-.022, p>0.05).

Regression analysis

Table 6. The results of univariate regression analysis

Hypotheses	Standardized β	t values	*p*	Test results
H1. Teacher Support directly effects Academic Stress	**-.155****	4.761	***.000***	**Accepted**
H2. Family Support directly effects Academic Stress	.037	1.128	*.260*	**Not Accepted**
H3. Teacher Support directly effects Dropout Itention	-.021	-.661	*.509*	**Not Accepted**
H4. Family Support directly effects Dropout Itention	**-.092****	-2.790	***.005***	**Accepted**
H5. Academic Stress directly effects Dropout Itention	**.388****	12.780	***.000***	**Accepted**

Note: **: p<0.05.

The results of regression analysis in Table 6 show that there is a direct impact from teacher support on academic stress (β = -.155, p < 0.01), family support has a persistent significant direct effect on dropout intention (β = -. 092, p<0.01), academic stress has a significant direct effect on dropout intention with a sizable effect size (β = .388, p<0.01). There is no direct impact from family support on academic stress (β = .037, p>0.05), and teacher support has not a significant direct effect on dropout intention (β =- .021, p>0.05).

Mediate variable analysis

Table 7. The results analyzed using the Bootstrapping method

Hypotheses	β	SE	t	p	95%CI LLCI	95%CI ULCI	Test results
Total effect of Academic Stress on Dropout Itention	.5154	.0403	12.7803	.0000	.4363	.5945	
Direct effect of Academic Stress on Dropout Itention	.5291	.0406	13.0374	.0000	.4494	.6087	
H6. Academic Stress ➡ Teacher Support ➡ Dropout Itention	-.0094	.0078			**-.0260**	**.0055**	**Not Accepted**
H7. Academic Stress ➡ Family Support ➡ Dropout Itention	-.0043	.0048			**-.0154**	**.0037**	**Not Accepted**

Note: **: p < 0,01; SE: Standard error; CI: Confidence interval.

With 95% confidence, the results of testing hypothesis H6 give the value below (BootLLCI) = -0.0260 and the value above (BootULCI) = 0.0055. Confidence interval [-0.0260; 0.0055] includes the value 0, so there is no indirect impact from academic stress on students' intention to leave school through teacher support and also means that the teacher support variable has no role. mediating role affecting the relationship from academic stress to intention to leave school. The results of testing hypothesis H7 also showed similar results, there is no direct impact from academic stress on students' intention to leave school through family support with the confidence interval [-0.0154 ; 0.0037] contains the value 0.

Discussion

Quantitative research results on a sample of 921 students show that the average score of students' academic stress is quite high (M = 4.2461/5.0). This is one of the issues that schools, lecturers and families need to pay attention to. Teacher support is confirmed to have a direct impact on students' academic stress (β = -.155, p<0.01). Students who receive more support from teachers have less stress in their studies and vice versa. This result shows that increasing support activities from teachers such as care, guidance, and feedback for students is very necessary and meaningful in helping students cope effectively with stress in the classroom.

study. Research by Zhang et al. (2019), Hoferichter and Raufelder (2021), Feng et al. (2022) also had similar findings that when students receive support from teachers, their ability to cope with stress will be higher, they will have more positive emotions, and their level of stress in learning will be lower. than. Besides, the results of this study show that family support has not a significantly significant direct effect on academic stress ($\beta = .037$, $p>0.05$). Our finding is different from previous studies; most previous studies have shown that family support is significant in reducing students' academic stress (Levens et al., 2016; McLean et al., 2022). Thus, our research results provide a different perspective on the relationship between family support and academic stress in students.

Survey results show that the average score of students' intention to leave school is not high (M = 2.3056/5.0). Academic stress is confirmed to have a direct impact on students' intention to leave school, and at a quite high level ($\beta = .388$, $p < 0.01$). Similar results were also discovered and confirmed in studies by Eicher et al. (2014), Marôco et al. (2020), Noman et al. (2021), the authors confirmed that academic stress is related to intention to leave school, stress is a factor predicting dropout intention. Thus, it can be said that academic stress is one of the causes leading to the intention to drop out of school. The more stressed a student is, the stronger the intention to drop out of school. Therefore, supporting students to reduce stress can limit their absenteeism rate. This study also confirms that family support has a significantly significant direct effect on dropout intention ($\beta = -.092$, $p<0.01$), which also means that the greater the family support, the higher the student's intention to drop out of school. reduce. Research by Rodríguez et al. (2017), De Oliveira-Nunes et al. (2020) and López-Angulo et al. (2022) also confirmed that social support helps students adapt better to studying, limiting their intention to drop out of school. Teacher support was confirmed to have no impact on students' intention to leave school ($\beta = -.021$, $p>0.05$). This finding is also a new finding in our study, because previous studies have found a statistically significant negative correlation between teacher support and intention to leave school (Kaplan, 2018; Descals-Tomás et al., 2021; Stine, 2022).

The hypotheses about the impact of academic stress on students' intention to leave school through the mediating role of teacher and family support were not accepted in this study. This means, teacher support and family support do not have an indirect impact on the relationship between academic stress and intention to leave school. Our study is the first on this issue, so more studies are needed to verify and confirm this result.

Conclusion

Cross-sectional quantitative study on a sample of 921 university students in Vietnam on the impact of teacher support and family support on academic stress and students' dropout intention and the mediating role of teacher support and family support in the relationship between educational stress and students' intention to leave school confirmed that teacher support has a significant direct effect on academic stress, family support has a significant direct effect on dropout intention, academic stress has a significant direct effect on dropout intention, family support has not a significant direct effect effect on stress, and teacher support has not a significant direct effect on dropout intention. Teacher and family support are not mediating factors affecting the relationship between academic stress and students' intention to leave school. From these research results, to limit students' intention to drop out of school, it is necessary to control their academic stress levels. Promoting teacher support is necessary and meaningful in limiting students' stress, and increasing family support is also an effective solution to limiting student's dropout intention.

Limitations of the study

This study only focuses on evaluating the relationship between teacher and family support with academic stress and students' intention to leave school in the Vietnamese context. To have an overview of the factors affecting academic stress and students' intention to leave school as well as their role in the relationship between academic stress and students' intention to leave school in the Vietnamese context in particular and the world in general need more research on larger sample sizes and in other cultural contexts.

Conflicts of interest

This is a personal research project and does not receive funding from any organization, so there is no conflict of interest in this publication.

Acknowledgments

We sincerely thank the research participants for their support so that we could complete this study.

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