Scientific e-journal
EDUCATION. INNOVATION. DIVERSITY (EID)

FINANCIAL STRESS IN COLLEGE STUDENTS: EXAMINING GENDER DIFFERENCES IN RELATION TO SOCIO-ECONOMIC FACTORS

Līga Roķe-Reimate[1], Lāsma Balceraite[2], Anita Lasmane[3], Iveta Broliša[4], Alisa Lāce[5]
[1, 2, 3, 4, 5, 6]College of Business Administration, Latvia

Abstract. *Rising concerns about student financial well-being and financial pressures on them highlight the need to examine the financial stress of students in higher education and how it varies by gender and socio-economic status. Aim of the study was to explore gender differences in financial stress among college students with different socio-economic status. The sample of the study was 708 students from the College of Business Administration (Latvia) enrolled in short-cycle higher professional education programs. Data were collected through a survey, and financial stress was measured with an 8-item scale composed for this study. Mann–Whitney U test was employed to assess gender differences in financial stress levels within the total sample and across different socio-economic status groups. The results indicate that female students experience significantly higher levels of financial stress than male students. We observed gender differences in financial stress in specific subgroups of socio-economic status - students with secondary education, students aged 31-36 years, unemployed students, students who have credit obligations and those who live in large cities – with female students in these groups reporting significantly higher perceived financial stress. The findings highlight the importance of developing targeted interventions that facilitate financial literacy and well-being among college students, while also considering gender and socio-economic disparities to mitigate the adverse effects of financial stress.*
Keywords*: financial stress, gender differences, college students, socio-economic factors.*

To cite this article:
Roķe-Reimate, L., Balceraite, L., Lasmane, A., Broliša, I., & Lāce, A. (2025). Financial Stress in College Students: Examining Gender Differences in Relation to Socio-Economic Factors. *Education. Innovation. Diversity, 1*(10), 99–112. https://doi.org/10.17770/eid2025.1.8385

Introduction

Financial well-being is a key component of general well-being and a critical factor for sustainable economic and social development, and it is negatively associated with stress and anxiety (Fan & Henager, 2021; Fachrudin & Latifah, 2022; Ahamed et al., 2024; Brim, 2024). However, the study by the Swedbank Financial Institute found that financial issues were the third most common source of stress in Latvian society (Finance Latvia Association, 2020), and in the 2022 Financial Literacy Survey conducted by the Bank of Latvia, signs of financial strain were evident - 43% of respondents reported being unable to cover basic expenses, with even higher vulnerability among women and those with only secondary education compared to those with higher education (Latvijas Banka, 2022). In recent decades, individuals all over the world are reporting financial concerns as their biggest cause of stress (Moore et al., 2021; Kaur & Singh, 2022).

Students represent a pivotal segment of society, shaping not only future economic trends but also representing future societal leaders. Students are highly responsive to social change. Understanding their experiences and challenges in higher education is valuable to form more effective policies for education, sustainability, and public well-being. Financial stress can significantly undermine students' mental health, academic achievements, and future employment prospects, increasing the risk of study dropout (Graves et al., 2021; Moore et al., 2021; Ryu & Fan, 2023). Globally, financial anxiety among university students has garnered increasing research attention, since it has emerged as a critical concern among the various factors influencing student well-being. Economic instability and income disparities exacerbate financial insecurity, intensifying students' financial stress (Ahamed et al., 2024).

It has been found that financial anxiety and accordingly financial stress can be influenced by a complex interplay of factors including gender and socio-economic factors (West et al., 2021; Rehr et al., 2022; Zhou et al., 2023; Ahamed et al., 2024). Moreover, socio-economic status (SES) is a factor to be included in the exploration of variation of financial stress among respondents. According to the Socio-economic Status and Stress Theory, individuals with higher SES typically experience lower levels of stress due to greater financial security and better coping resources. For example, higher income levels, in combination with other factors, are associated with lower financial anxiety among students (Ahamed et al., 2024).

Despite this growing interest internationally, in Latvia, student financial literacy, financial well-being, and perceived financial stress remain relatively underexplored, especially among working distance-learning students. Gender differences further complicate the financial stress landscape. Previous research has consistently found that women tend to score lower than men on financial literacy assessments (West et al., 2021), with cultural and historical contexts influencing these disparities (Botazzi & Lusardi, 2021). While gender differences in financial literacy among Latvian youth have been noted (Dundure & Sloka, 2021), research is needed to address gender-specific experiences of financial stress. Study "Student debt levels and income of University of Latvia graduates: Prospects for income-contingent loan repayment by the field of studies and gender" (Mhamed et al., 2012) has examined student debt and income disparities by gender, but it did not directly address the psychological aspects of financial stress or compare stress levels between male and female students. Broader research on financial literacy among Latvian youth, e.g. "Financial literacy self-evaluation of young people in Latvia" (Dundure & Sloka, 2021) acknowledges gender differences in financial literacy but does not explore financial stress specifically. Therefore, conducting targeted research on gender differences in financial stress among Latvian students studying in short-cycle higher professional education in relation to socio-economic factors would fill a gap in the current academic landscape and provide valuable insights for developing effective support systems. Authors of the study brought forward the **aim** to investigate whether there are gender differences in levels of financial stress among college students with different socio-economic characteristics and posed several **research questions**: 1) Are there statistically significant gender differences in the level of financial stress among college students? 2) Are there statistically significant gender differences in the level of financial stress among college students depending on their age, level of education, occupational status, household income, credit commitments and residential area size? To answer the research questions, a quantitative study was conducted in 2024 using an online survey administered to a sample of students (n = 708) from College of Business Administration, one of the largest colleges in Latvia. The survey included demographic and financial stress indicators, with financial stress measured via an 8-item scale composed for this study. Statistical analysis included descriptive statistics for financial stress scores for male and female students and the Mann–Whitney U test to assess gender differences overall and across socio-economic subgroups.

Literature review

Conceptualizing financial stress

Pressure about financial problems is increasingly common in society, and it can put an individual's prosperity and financial comfort at risk (Vosloo et al., 2014). There are two sides to an individual's financial condition, the first called prosperity and the latter called personal financial distress. The two terms most often discussed in research in relation to unsatisfying financial conditions are financial stress and financial distress. Financial stress is a

psychological factor representing an increased uncertainty about one's financial situation and perceived financial hardship, whereas personal financial distress is a condition where a person cannot fulfil his financial needs (Nareswari et al., 2021). Research has demonstrated a link between financial stress and poorer mental health outcomes, as well as overall wellbeing (Moore et.al., 2021).

Financial stress is a subjective phenomenon - two people in the same financial situation may have different levels of perceived financial difficulty (Fachrudin & Latifah, 2022). Financial stress is commonly understood as an emotional reaction to economic hardship and as a subjective experience where unfavourable financial conditions can trigger perceived stress and often lead to mental, physical and emotional strain. Financial stress is acknowledged for its significant impact on multiple aspects of life in adulthood (Nasir et al., 2025). Financial stress is often conceptualized as a component of subjective financial well-being or a phenomenon that fully of partly overlaps with it, whereas Sorgenta and colleagues (2023) report from their intensive longitudinal study that these phenomena do not overlap - subjective financial well-being is strongly rooted in the situational context at the daily level, conversely, subjective financial stress is more related to individuals' perception of being in a risky financial situation.

Conceptually, the starting point of financial stress is financial perception, followed by financial knowledge and financial stress management. These factors influence both positive financial behaviour and satisfaction with one's finances, which together determine financial well-being (Fan & Henager, 2022). Another essential dimension are psychological factors, which are increasingly recognized as significant in both the experience of financial stress and in efforts to mitigate its impact in the context of promoting financial well-being. Attributes such as motivation to seek relevant financial information, emotional regulation, confidence in decision-making, and financial management skills play a critical role in enabling individuals to effectively manage their finances (Mathew et al., 2022). Positive money habits—such as saving and planning—support higher financial well-being (West et al., 2021). Personality traits also have significant effects on financial behaviour and personal financial distress (Fachrudin & Latifah, 2022). It is also reported that financial well-being depends on how individuals perceive their financial situation compared to their peers or other family members and that tendency for social comparison has a negative effect on subjective financial well-being (Mathew et al., 2022; Moore et.al., 2021).

Financial stress is the result of a mix of cognitive, psychological and socioeconomic factors, and is shaped by broader cultural and socioeconomic contexts (Ahamed, 2024; Brim, 2024). Different socio-economic factors are emphasized in the literature: the country's socioeconomic history and current situation, education level, financial status, family's socioeconomic background, marital status, living situation, household income and debt (Fachrudin & Latifah, 2022; Ahamed et al., 2024; Moore et al., 2021; Brim, 2024; Botazzi & Lusardi, 2021; Nguyen Vu & Scott, 2017).

Financial stress may not necessarily be a negative issue if one uses it as a source of motivation to increase productivity and ultimately gain income to help solve problems. However, it could turn into a problem if the income obtained is insufficient to meet daily needs. It can be worse when an individual has no knowledge or skills to manage personal finances (Idris et al., 2017). Financial stress may also affect financial literacy - when people are struggling to make ends meet or are dealing with financial hardship, they may not have the time or resources to devote to learning about financial concepts and strategies (NEFE, 2018). Therefore, it is important to study financial stress, as it is one of the key aspects of financial literacy. In turn, the core purpose of financial literacy is to promote financial well-being, which ultimately contributes to overall well-being.

Gender differences in financial stress

Gender is a significant individual factor explored in studies on financial literacy, including financial stress and financial behaviour, in connection with psychological, social, and economic aspects (Nguyen Vu & Scott, 2017; Sivarajah et al., 2014; Archuleta et al., 2013; Sayilir et al., 2019; Taft et al., 2013; Botazzi & Lusardi, 2021; Fan & Henager, 2022; Brim, 2024; Ahamed et al., 2024). However, in accordance with the topic of this article, we conditionally differentiate between gender differences and socio-economic factors in the theoretical framework.

In the context of financial stress, we should consider broader gender differences in general stress responses. Across a number of studies, women report higher levels of anxiety than men (Cholankeril et al., 2023) and higher perceived stress levels than men (e.g., Méndez-Chacón, 2022). Research points to biologically grounded greater sensitivity and vulnerability of women to adverse events (Bianchin & Angrilli, 2012). As Ensminger and Celentano (1990) have proposed, observed gender differences in psychological distress may stem also from differences in social role expectations and responsibilities between men and women, rather than from inherent gender-based traits. Gender differences in coping may also play a role in perceived stress. Coping is defined as modifiable behavioural and cognitive tactics that are used to manage stress and situational demands that are appraised by an individual as distressing (Lazarus & Folkman, 1984). Consequently, some researchers tie gender differences in financial stress partly to different coping mechanisms (Cholankeril et al., 2023), which may result in higher perceived stress levels in women. It is reported that men and women tend to use different coping mechanisms to deal with their stress, and though different strategies - e.g., problem-focused strategies and emotion focused strategies - can be more or less adaptive depending on the circumstances that prompted the need for coping, gender differences in perceived stress levels can partly be explained by differences in coping strategies (Graves et al., 2021). Though findings on studies of gender differences in coping behaviour are not definitive, it is generally argued that men tend to deal with stress by problem-focused coping which is less likely to be associated with psychological distress than emotion focused coping (Matud, 2004).

Previous findings reveal that gender disparities in financial stress exist. Generally, women report greater financial anxiety than men (Ahamed et al., 2024). Zhou and colleagues (2023) report that women are associated with a higher likelihood of experiencing financial stress than men, and Dunn and Mirzaie (2023) found that women on average exhibited approximately 30% overall greater debt stress scores than men after controlling for income, debt levels and other socioeconomic variables. Lind et al. (2020) found in a Sweden sample that women reported lower levels of subjective financial well-being even though they reported a more prudent financial behaviour than men, when controlling for socio-demographics and cognitive abilities. Men tend to have higher confidence and perceived control over finances, which potentially leads to lower financial stress than women whose financial stress could be exacerbated by lower confidence and social pressure (Ahamed et al., 2024). Still, there are studies which conclude that there is no significant difference in financial stress between female and male students (Fachrudin & Latifah, 2022).

Financial stress among college students and the shaping role of socio-economic background

Studies indicate that a high percentage of college students are dealing with financial stress, e.g., in the USA, 72.5 % of college students reported feeling stress from personal finances (The Ohio State University, 2023). Rising tuition fees, limited access to financial aid, and the necessity of balancing work and study contribute to the financial stress experienced by many students. Ultimately, financial stress may have adverse impacts on students' ability

to succeed academically and persistence to get a degree (Ahamed et al., 2024; Moore et al., 2021).

Particularly in Central and Eastern Europe, due to historical and economic transformations and shifts in employment patterns, income distribution, and social welfare systems, economic instability and disparities can contribute to heightened financial anxiety among students (Ahamed et al., 2024). Study in students' samples in Poland and Czechia found that a combination of factors such as perceived lack of financial knowledge, being female, living with parents, having a low monthly income, single status and working a few hours or not at all was linked to higher financial anxiety (Ahamed et al., 2024). Additionally, it has been found that first-generation students (students who are the first in their family to attend a college or university) had significantly higher scores on average than continuing-generation students on the financial strain measure (Rehr et al., 2022). Across age groups, financial stress varies: young people seek independence, middle-aged support children, and older individuals fear being a burden (Riitsalu et al., 2024), and it might presuppose different patterns in the factors affecting financial stress in different age groups.

The level of income directly influences students' ability to meet their basic needs, cover educational expenses, and manage debt. While high income reduces anxiety related to meeting basic needs, low income may lead to financial strain and impact overall well-being (Ahamed et al., 2024; West et al., 2021). A factor that intertwines with income is employment. Employment provides a source of income, financial independence, and the ability to cover study fees and living expenses thus potentially reducing financial anxiety. However, a student's employment status can reduce financial worries through increased stability but also increase anxiety due to time constraints and struggle to balance work commitments and academic responsibilities (Ahamed et al., 2024).

The role of family status in financial well-being is multifaceted, encompassing shared expenses, financial goals, and emotional support. Single students may have more independent financial responsibilities, covering their living expenses, tuition, and other costs than students in a relationship where the financial load is distributed between partners. However, living with parents can have both positive and negative effects but they may vary based on individual circumstances (Ahamed et al., 2024).

Debt is one of the contributors to financial stress. Studies report that anticipated loan repayment can be a critical stressor and create a constant tension for students along with the burden of living cost loans, especially for students who are not able to work full time while pursuing an education (Heckman et al., 2014; Moore et al., 2021). Moreover, students from low- to middle-income families often feel particularly constrained by debt (Fachrudin & Latifah, 2022). In the context of this study, it is important to emphasize the student profile, as the study sample is mostly made up of working adults who, in addition to their daily financial obligations, pursue fee-based higher education.

Methodology

Sample of the study. The participants of the study were students at the College of Business Administration (CBA). It is a private college which provides short-cycle higher professional education in study programs in two study directions - Management, Administration, and Real Estate Management (includes six different study programs) and Law (one study program). All students of CBA pay the tuition fee which is an important factor in the context of the present research topic. The total sample of the study was 708 students. The mean age of participants was 33.7 years (SD = 9.8). The sample consisted predominantly of female students (83.1%), with males representing 15.9% and 1% not disclosing gender. Age distribution was relatively even across groups: 18–24 years (23%), 25–30 years (17%), 31–

36 years (21%), 37–43 years (22%), and 44+ years (17%). Most participants were first-year (53.4%) or second-year (43.1%) students, with a small proportion (3.4%) in the third year. Students were enrolled in various programs, most commonly Personnel Psychology & HR Management (32.3%), Accounting and Financial Planning (21.8%), and Law (16.5%), with smaller groups in Marketing and Sales (12.4%), Business Logistics (9.8%), Office Management (5.5%), and Small and Medium Enterprise Management (1.5%).

Data collection methods. The present study analyses a subset of data collected through a survey. The survey comprised a questionnaire designed to obtain a comprehensive insight into various aspects of financial literacy and related psychological aspects as reported by students. The data analysed in this study involved: 1) socio-demographic and socio-economic status (age, gender, level of previous education, region of residence; household income, the status and type of credit obligations, occupational status); 3) financial stress. Financial stress was measured using the Financial Stress Scale (FSS), a self-report tool developed for this study to capture subjective experiences of financial strain. The scale comprised eight items about various aspects of financial stress experience. Five of these items were adapted from "The InCharge Financial Distress/Financial Well-being Scale" (Prawitz et al., 2006), and the remaining three were developed by the authors of the study to capture additional dimensions of financial stress. Participants rated each statement on a 1 to 10-point scale. The response scales varied slightly: some items ranged from 1 ("no stress") to 10 ("overwhelming stress"), while others - from "never" to "all the time" to reflect frequency. One item assessed satisfaction with the current financial situation and was scored in reverse, asking participants, "On a scale of 1 to 10, assess how satisfied you are with your present financial situation." The reliability of the FSS was assessed using Cronbach's alpha, yielding a coefficient of 0.91, which indicates good internal consistency for the items included in the scale. The total score for the FSS was calculated as the average of all items.

Procedure. The survey was conducted in May and June 2024. The link to the questionnaire on "Google Forms" was distributed to all 1st to 4th semester students of CBA within the study course "The professional skills development practice" where students had an assignment to reflect on the development and use of questionnaires as a research method. After reviewing all the questions, students could complete and submit their answers or leave without submitting it. The survey link was sent to 5th semester students via the centralised email distribution by the Study Support Centre of CBA. Access to the responses was restricted to two research team members, and anonymity of the responses was maintained.

Data analysis. Statistical analysis was conducted using statistical software package SPSS 20.0. Descriptive statistics, including means, standard deviations, medians were used to summarize financial distress variables. Due to the non-normal distribution of the data, as assessed by the Shapiro-Wilk test, a nonparametric statistical method - The Mann-Whitney U test - was applied to detect gender differences in financial distress scores obtained with FSS both overall and across different socio-economic status' subgroups.

Research results

This section presents the results organized to address the study's research questions. We begin with descriptive statistics of the socio-economic status of the female and male subsamples and then present analyses of gender differences in financial stress. Among female students, 76.9% had secondary education and 23.1% higher education, while among males, 80.7% had secondary and 19.3% higher education (respondents were asked to report their highest attained education level prior to college enrolment. Since at least a secondary education is required for college admission, no participants had primary education. Most students were employed (69.8% females, 65.8% males), with smaller proportions being

entrepreneurs or self-employed (8.2% females, 12.3% males) or both employed and self-employed (8.0% females, 14.9% males); unemployment was reported by 14.0% of females and 7.0% of males. Household income ranged mostly from €1001–2000 (36.0% females, 33.3% males), with 14.5% of both genders not disclosing income. Credit obligations were reported by 57.1% of females and 60.5% of males. Regarding family status, most were married (44.3% females, 43.0% males), followed by being in a partnership or single. In terms of residence, females were slightly more spread across towns and rural areas, while males were more concentrated in large cities (43.9%).

Gender differences in average financial stress scores and ratings of each item on a 1 to 10-point scale are depicted in Table 1.

Table 1. ***Descriptive statistics and gender differences in FSS scores***

	M (SD)		*Me*		Mann-Whitney *U*
	Females	Males	Females	Males	
Total score of FSS	5.4 (1.9)	4.9 (1.8)	5.3	5.0	**29264.0***
I1. General sense of financial stress	5.6 (2.4)	5.0 (2.2)	6.0	5.0	**28494.0****
I2. Dissatisfaction with financial situation	5.5 (2.1)	5.2 (2.2)	5.0	5.0	31656.0
I3. General financial worries	5.6 (2.3)	5.1 (2.3)	5.0	5.0	**29948.0***
I4. Concerns about covering everyday expenses	4.4 (2.6)	3.8 (2.4)	4.0	3.0	**29123.0***
I5. Feelings of financial strain	5.3 (2.4)	5.0 (2.3)	5.0	5.0	31156.0
I6. Worries about future finances	5.9 (2.4)	5.4 (2.5)	6.0	5.0	**32743.0***
I7. Preoccupation with thoughts about finances	5.4 (2.4)	5.2 (2.5)	5.0	5.0	28329.0
I8. Worries about running out of money	5.4 (2.6)	4.7 (2.4)	5.0	4.0	**29264.0****

Notes. Females n = 594, males n = 114; FSS = Financial Stress Scale; I1 - I8 (Items 1 to 8 of FSS)
*p< .05; **p< .01

The total score of FSS indicates that both females and males on average reported moderate levels of financial stress suggesting that it is a rather common concern. The analysis revealed significant gender differences in the total score and several item ratings of the FSS. Females reported higher mean total scores (M = 5.4, SD = 1.9) compared to males (M = 4.9, SD = 1.8), with Medians of 5.3 and 5.0, respectively (U = 29264.0, p = .022).

Across all individual items of FSS, female students consistently had higher mean item scores than males, and five out of eight items had statistically significant gender differences (see Table 1). Females had significantly higher scores (at p< .01) than males on Item 1 (General sense of financial stress), on Item 8 (Worries about running out of money) as well as on Item 4 (Worries about covering everyday expenses) reflecting increased concerns about managing daily expenses. Additionally, significant gender differences were observed at the p < .05 level for Item 3 (General Financial Worries) and Item 6 (Worries About Future Finances).

The analysis of the total FSS score included calculating the frequencies of three intervals of financial stress level: low (1 ≤ score < 4), moderate (4 ≤ score < 7), and high (7 ≤ score ≤ 10) stress levels among female and male participants (see Figure 1).

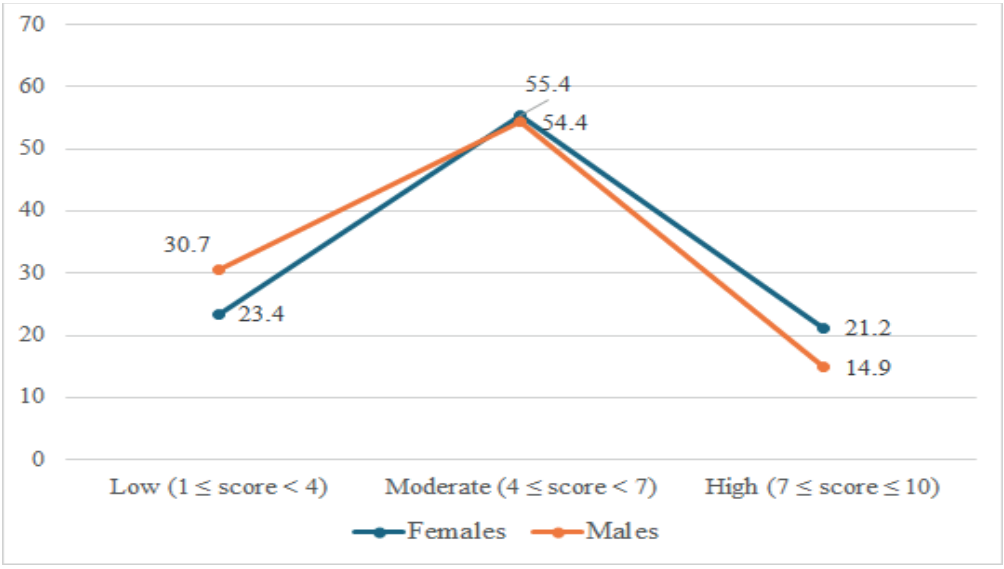

Figure 1 ***Distribution of FSS total scores intervals by gender (%)***

The data depicted in Figure 1 shows that the majority of both male and female students experience moderate levels of financial stress (55.4% females and 54.4% males). However, males are more likely to experience low financial stress (30.7% vs. 23.4%), whereas females are more likely to report high financial stress (21.2% vs. 14.9%). While financial stress is a common experience for both genders, female students appear to be at a higher risk of severe financial stress than male students, whereas male students are more likely to fall into the low-stress category.

We examined gender differences in financial stress score across key socio-demographic and socio-economic factors (age, education level, occupational status, household income, credit obligations and size of residence area). The results presented in Table 2 illustrate gender differences in FSS total scores across different education levels and age groups of college students.

Table 2 ***Gender differences in FSS total scores by education level and age***

	Females			Males			Mann-Whitney *U*
	M (SD)	*Me*	*n*	*M (SD)*	*Me*	*n*	
Education							
Secondary	5.5 (1.9)	5.4	457	4.9 (1.7)	4.9	92	17210.0**
Higher	5.1 (1.9)	4.9	137	5.1 (1.9)	5.0	22	1475.0
Age (years)							
18 - 24	5.7 (1.8)	5.6	136	5.3 (1.6)	5.1	28	1538.5
25 - 30	5.4 (1.8)	5.3	103	4.7 (1.8)	5.4	17	731.5
31 - 36	5.5 (2.0)	5.4	133	4.5 (1.3)	4.8	18	807.0*
37 - 43	5.3 (2.1)	5.0	118	5.2 (1.8)	4.9	34	1926.0
44 and more	4.8 (1.9)	4.7	104	4.6(2.4)	4.1	17	798.0

Notes. Females n = 594, males n = 114; FSS = Financial Stress Scale; Higher education = Short cycle higher education or Bachelor degree or Master degree
**p< .05; **p< .01*

Gender differences by education level. Among individuals with secondary education, females reported higher financial stress (*Me* = 5.4) compared to males (*Me* = 4.9), and this

difference was statistically significant (U = 17210.0, p < .01). Whereas among individuals with higher education, females and males had similar financial stress scores (*Me* = 4.9 vs *Me* = 5.0).

Gender differences by age. Female students generally reported slightly higher financial stress scores than male students at nearly all ages (see Table 2). Significant gender differences were found in the 31–36 years age group, where women reported higher financial stress than men (*Me* = 5.4 vs *Me* = 4.8; U = 807.0, p < .05). In all other age groups, gender differences were not statistically significant. Among female students, the highest average financial stress score was observed in the 18–24 age group (*Me* = 5.6) and the lowest - in the age group of more than 44 years (*Me* = 4.7), and these age differences were statistically significant (U = 4950.5, p < .001). Age-related gender differences in financial stress for male students were not statistically significant.

Gender differences by occupational status. The results presented in Table 3 examine gender differences in FSS total scores across four different groups of occupational status. We combined unemployed women with housewives and women on parental leave into a single category of occupational status.

Table 3 ***Gender differences in FSS total scores by occupational status***

	Females			Males			Mann-Whitney *U*
	M (SD)	*Me*	*n*	*M (SD)*	*Me*	*n*	
1. Employed	5.4 (1.9)	5.3	415	5.1 (1.7)	5.1	75	14309.5
2. Entrepreneur or self-employed	4.8 (1.7)	4.6	49	4.4 (1.9)	4.2	14	287.0
3. Employed and entrepreneur/self-employed	5.1 (1.9)	5.0	47	4.8 (2.0)	4.9	17	365.0
4. Unemployed	6.1 (2.2)	5.9	83	4.7(1.8)	4.7	8	207.5†

Notes. Females n = 594, males n = 114; FSS = Financial Stress Scale; Unemployed = unemployed or housewife or on parental leave
†p< .10

Employment appears to be associated with lower financial stress for both genders, with entrepreneurs/self-employed individuals reporting the lowest levels of financial distress. Gender differences were not statistically significant across occupational status groups except among the unemployed, where the difference approached significance (U = 207.5, p = .08). Unemployed women reported the highest financial stress among all subgroups (*Me* = 5.9). Unemployed men also reported high financial stress but slightly lower than women (*Me* = 4.7).

The results presented in Table 4 reflect gender differences in financial stress total scores across four different groups of household income level and credit obligations.

Table 4 ***Gender differences in FSS total scores by household income and credit obligations***

	Females			Males			Mann-Whitney *U*
	M (SD)	*Me*	*n*	*M (SD)*	*Me*	*n*	
Household income							
up to 1000 euros	6.3 (2.0)	6.3	72	5.6 (1.4)	5.8	10	284.5
1001 - 2000 euros	5.5 (1.9)	5.4	214	5.6 (1.7)	5.7	38	3768.5
2001 - 3000 euros	5.2 (1.8)	5.3	136	4.6 (1.6)	4.5	24	1238.0†
More than 3001 euros	4.7 (1.7)	4.6	86	4.4 (1.8)	4.3	23	863.0
Credit obligations							
Yes	5.5 (1.9)	5.4	339	5.0 (1.6)	5.0	69	9926.5*
No	5.2 (1.9)	5.0	229	4.7 (1.9)	4.9	42	4126.0

Notes. FSS = Financial Stress Scale
**p< .05; †p< .10*

Gender differences by household income level. Average financial stress scores across different household income levels tends to decrease as household income increases for both female and male students, and females consistently report higher scores compared to men across nearly all income brackets, though gender differences approached significance only in the income range of 2001–3000 euros, where women tended to report greater financial stress than men (U = 1238.0, p = .06). The highest level of financial stress was reported by female students with household income up to 1000 euros (*Me* = 6.3), and the lowest - by male students with household income 3001 euros and more (*Me* = 4.3).

Gender differences by status of credit obligations. Both female and male students experience higher financial stress when they have credit obligations, and female students had significantly higher financial stress scores than males (*Me* = 5.4 vs *Me* = 5.0, U = 9926.5, p = .047). For students without credit obligations, there were no significant gender differences in financial stress. Moreover, female students with credit obligations had significantly higher financial stress than those without credit obligations (U = 34775.5, p = .035), a trend not found in male students' subsample (U = 4126.0, p = .32).

Gender differences by residential area size. The results presented in Table 5 examine gender differences in financial stress total scores in relation to the size of the residential area - large city, town, small town or rural area/village.

Table 5 ***Gender differences in FSS total scores by size of residential area***

	Females			Males			Mann-Whitney *U*
	M (SD)	*Me*	*n*	*M (SD)*	*Me*	*n*	
Large city	5.3 (1.9)	5.1	171	4.6 (1.9)	4.5	50	3265.5*
Town	5.6 (1.9)	5.4	179	5.2 (1.5)	5.2	26	2094.5
Small town	5.1 (1.8)	5.2	116	5.1 (1.9)	5.1	23	1303.5
Rural area	5.4 (2.1)	5.3	128	5.3 (1.4)	5.3	15	944.5

Notes. Females n = 594, males n = 114; FSS - Financial Stress Scale
**p< .05*

Results depicted in Table 7 show that for female students, the highest financial stress is in towns (*Me* = 5.4), whereas for male students - in rural areas and villages (*Me* = 5.3).

However, significant gender differences in perceived financial stress were detected only for students in large cities where female students demonstrated higher scores than male students (*Me* = 5.1 vs *Me* = 4.5, *U* = 3265.5, *p* = .01), possibly reflecting gender-specific challenges in urban environments in relation to higher living expenses, work-life balance difficulties, or income disparities. Gender differences in financial stress diminish in smaller towns and rural areas, where financial stress is rather similar for female and male students.

Conclusions and discussion

In this study, we explored the prevalence of financial stress perceived by college students and sought to determine whether statistically significant gender disparities exist in financial stress in general, and how these differences manifest concerning age, education level, occupational status, household income, credit commitments, and residential area size. Our findings indicate that financial stress is a rather prevalent issue for college students. In general, female students are experiencing higher levels of financial stress compared to their male counterparts. Female students reported significantly higher scores also in specific items of financial stress measure, such as general feeling of financial stress, concerns about covering daily expenses, and worries about running out of money, suggesting that female students have lower financial confidence and greater concern over financial security than male students.

We found that higher education may buffer financial stress, particularly for women - among students with secondary education, females reported significantly higher financial stress than males, but no gender differences were found among those with higher education. A number of research studies have found that higher educated people outperform people with less education on financial literacy measures (e.g., Gudjonsson et al., 2022). As relates to age differences, in general, for female students in our study financial stress was highest in early adulthood (18 - 24 years) and declined with age, suggesting age-related financial adjustments over time. Males' financial stress remained relatively stable across age groups, indicating that age plays a smaller role in financial stress of male students. Female students aged 31–36 experienced significantly greater financial stress than males, possibly due to financial burdens associated with work-life balance and caregiving. This pattern may be further explained by evidence that women are more likely to choose jobs with flexible working hours to be able to devote more time to family and childcare, but such work is often less paid (Vitellozzi et al., 2025).

Study results showed that unemployment had a more profound impact on financial stress for female students compared to males - gender differences in the subgroup of unemployed students approached statistical significance. Self-employed students of both genders reported the lowest financial stress, aligning with research on autonomy and job satisfaction reducing financial stress (Dunn & Mirzae, 2022). Unemployment affects both men and women, however, unemployment's psychological impact may differ due to social roles and expectations (Ensminger & Celentano, 1990). It can be more distressing in cases where women have sole or most financial responsibility for their household.

Generally, household income is inversely related to financial stress for both genders, with female students consistently reporting higher stress across income brackets. However, a significant gender gap appeared only in the 2001–3000 euros income range. This finding may be due to differences in financial responsibilities, spending patterns, or perceptions of financial security between genders, or sample biases. However, interpretations should be made cautiously - while higher income may alleviate financial stress, it is also possible that individuals experiencing higher financial stress are motivated to seek additional income sources.

Credit obligations contributed more to financial stress among female students, mirroring other studies showing higher debt stress in females even after controlling for income and debt levels (Dunn & Mirzae, 2022). This suggests lower financial resilience among female students when faced with credit obligations.

In our study, residential area size also plays a role in financial stress. Interestingly, female students reported the highest financial stress in towns, while male students experienced the most stress in rural areas, possibly due to reduced economic opportunities, social support, and cultural norms. Arguably, income disparities and societal expectations can further exacerbate financial stress for female students in cities.

Accessible financial counselling programs and public health intervention programs are needed to mitigate financial worries and its negative influences, with greater attention devoted to vulnerable populations (Ryu & Fan, 2022). It is useful and necessary to create and implement targeted interventions in educational institutions, public service institutions or non-governmental institutions to both reduce financial stress and enhance financial well-being of students, considering the needs arising from gender and socio-economic differences. Based on the results of literature review (Ryu & Fan, 2022) and of present empirical study, authors propose several solutions to create and implement targeted **interventions** in educational institutions:

1. Support activities for unemployed students, recognizing that unemployed students, particularly - females, tend to experience higher levels of financial stress. Authors of the study propose to develop educational resources, for example, a dedicated and specific study module "Financial Security and Career Development".

2. Integration of financial education into academic curricula by designing elective courses, assignments or workshops on different aspects of financial knowledge, behaviours, attitudes to enhance students' financial literacy and financial self-efficacy, possibly, in collaboration with financial institutions to provide real-world insights into budgeting, saving, and long-term financial planning.

3. Promotion of entrepreneurship and self-employment opportunities and initiatives to facilitate financial resilience and thus lower perceived financial stress through workshops, mentorship programs, and helping to explore resources for startups, but accordingly taking into account individual differences in capacity for entrepreneurship.

4. Community building in higher education institutions or other settings by creating peer support groups or peer-based counselling and facilitating discussions about financial challenges to foster support networks.

This study has several limitations to be considered when interpreting the findings. First, this was a cross-sectional study and gender differences in financial stress do not reveal causal relationships between gender and financial stress per se. Secondly, the study sample was from one distance learning college in Latvia, thus results are not directly generalizable to students in other educational contexts. Thirdly, the gender imbalance in the sample may have influenced the statistical power of the analysis. Students from diverse study programs participated in the survey, and given that some programs (e.g., Accounting and Financial Planning) provide information on more aspects of financial literacy and economic decision-making than others.

Acknowledgments

The authors express their gratitude to the directors of study programs at CBA for their support in facilitating the distribution of questionnaires among CBA students. We are grateful to Rita Vanaga for valuable comments on the content of the questionnaire used in the study. We also extend our appreciation to all CBA students who participated in the study.

References

Ahamed, A. F. M. J., Jakubowska, D., & Sadilek, T. (2024). Financial anxiety of university students in Poland and Czechia: fsQCA analysis. *International Journal of Bank Marketing*, *43*(4), 757-779. DOI: 10.1108/IJBM-04-2024-0229

Archuleta, K. L., Dale, A. & Spann, S. M. (2013). College Students and Financial Distress: Exploring Debt, Financial Satisfaction, and Financial Anxiety. *Journal of Financial Counseling and Planning, 24*(2), 50-62. Retrieved from: http://hdl.handle.net/2097/17281

Bianchin, M., & Angrilli, A. (2012). Gender differences in emotional responses: A psychophysiological study. *Physiology & Behavior, 105*(4), 925-932. DOI: https://doi.org/10.1016/j.physbeh.2011.10.031

Bottazzi, L. & Lusardi, A. (2021). Stereotypes in financial literacy: Evidence from PISA. *Journal of Corporate Finance*, *71,* 101831. DOI: https://doi.org/10.1016/j.jcorpfin.2020.101831

Brim, J. (2024). *Differences in Presenting Concerns of Anxiety Amongst Students in College Counseling Centers Across the United States.* Dissertation Thesis. Retrieved from: https://scholarsarchive.byu.edu/cgi/viewcontent.cgi?article=11277&context=etd /

Cholankeril, R., Xiang, E., & Badr, H. (2023). Gender Differences in Coping and Psychological Adaptation during the COVID-19 Pandemic. *International journal of environmental research and public health, 20*(2), 993. DOI: https://doi.org/10.3390/ijerph20020993

Dundure, E., & Sloka, B. (2021). Financial Literacy Self-Evaluation of Young People in Latvia. *European Integration Studies*, *1*(15), 160-169. DOI: 10.5755/j01.eis.1.15.28902.

Dunn, L. F., & Mirzaie, I. A. (2022). Gender Differences in Consumer Debt Stress: Impacts on Job Performance, Family Life and Health. *Journal of family and economic issues*, *44,* 550–567. DOI: https://doi.org/10.1007/s10834-022-09862-z

Ensminger, M. E., & Celentano, D. D. (1990). Gender differences in the effect of unemployment on psychological distress. *Social Science and Medicine, 30*(4), 469-477. DOI: https://doi.org/10.1016/0277-9536(90)90349-W

Fachrudin, K. A., & Latifah, S. (2022). Relationship between individual characteristics, neurotic personality, personal financial distress, and financial behavior. *Cogent Business & Management, 9*(1), 2105565. DOI: https://doi.org/10.1080/23311975.2022.2105565

Fan, L., & Henager, R.A. (2022). Structural Determinants Framework for Financial Well-Being. *Journal of Family and Economic Issues. 43*(2), 415-428. DOI:10.1007/s10834-021-09798-w

Finance Latvia Association. (2020, November 10). *Swedbank pētījums: 39% Latvijas iedzīvotāju ikdienā izjūt stresu par naudas lietām*. Finance Latvia. Retrieved from: https://www.financelatvia.eu/news/swedbank-petijums-39-latvijas-iedzivotaju-ikdiena-izjut-stresu-par-naudas-lietam/#_ftn1

Graves, B. S., Hall, M. E., Dias-Karch, C., Haischer, M. H., & Apter, C. (2021). Gender differences in perceived stress and coping among college students. *PloS One, 16(*8), e0255634. DOI: https://doi.org/10.1371/journal.pone.0255634

Gudjonsson, S., Minelgaite, I., Kristinsson, K., & Pálsdóttir, S. (2022). Financial Literacy and Gender Differences: Women Choose People While Men Choose Things? *Administrative Sciences, 12*(4)*,* 179. DOI: https://doi.org/10.3390/admsci12040179

Heckman, S., Lim, H., & Montalto, C. (2014). Factors related to financial stress among college students. *Journal of Financial Therapy, 5*(1), 19–39. DOI:10.4148/1944-9771.1063

Idris, F. H., Krishnan, K. S. D., & Azmi, N. (2017). Relationship between financial literacy and financial distress among youths in Malaysia - An empirical study. *Geografia-Malaysian Journal of Society and Space, 9*(4), 106–117

Kaur, G., & Singh, M. (2022). Pathways to Individual Financial Well-Being: Conceptual Framework and Future Research Agenda. *FIIB Business Review*, *13*(1), 231971452211059. DOI: 10.1177/23197145221105947

Latvijas Banka. (2022). *Latvijas iedzīvotāju finanšu pratības aptauja 2022*. Retrieved from: https://www.bank.lv/images/pielikumi/fails/Finansu-pratibas-aptauja-2022.pdf

Lazarus R. S., & Folkman S. (1984). *Stress, Appraisal, and Coping*. New York: Springer.

Lind, T., Ahmed, A., Skagerlund, K., Strömbäck, C., Västfjäll, D., & Tinghög, G. (2020). Competence, Confidence, and Gender: The Role of Objective and Subjective Financial Knowledge in Household Finance. *Journal of Family and Economic Issues, 41*, 626–638. DOI: https://doi.org/10.1007/s10834-020-09678-9

Mathew, V., Santhosh, K. P. K., & Sanjeev, M. A. (2022). Financial Well-being and Its Psychological Determinants— An Emerging Country Perspective. *FIIB Business Review*, *13*(1), 42-55. DOI: https://doi.org/10.1177/23197145221121080

Matud, M.T. (2004). Gender differences in stress and coping styles. *Personality and Individual Differences, 37*(7), 1401-1415. DOI: https://doi.org/10.1016/j.paid.2004.01.010

Méndez-Chacón, E. (2022). Gender Differences in Perceived Stress and Its Relationship to Telomere Length in Costa Rican Adults. *Frontiers in Psychology, 13*, 712660. DOI: 10.3389/fpsyg.2022.712660

Mhamed, A.A.S., Kaša, R., & Cunska, Z. (2012). Student debt levels and income of University of Latvia graduates: Prospects for income-contingent loan repayment by the field of studies and gender. *Baltic Journal of Economics, 12*(2), 73 - 88. Retrieved from: https://ideas.repec.org/a/bic/journl/v12y2012i2p73-88.html

Moore, A., Nguyen, A., & Martinez, L. (2021). A qualitative examination of the impacts of financial stress on college students' well-being: Insights from a large, private institution. *SAGE Open Medicine*, *9,* 20503121211018122. DOI: https://doi.org/10.1177/20503121211018122

Nareswari, N., Negoro, N., & Dalem, G. (2021). Mitigating Personal Financial Distress: The Role of Religiosity and Financial Literacy. *Procedia Business and Financial Technology*, *1,* 115 - 120. DOI: 10.47494/pbft.2021.1.23

Nasir, A., Javed, U., Hagan, Kobina C.R., Kundi, H., Amin, Z., Butt, S., Al-Kindi, S., & Javed, Z. (2025). Social determinants of financial stress and association with psychological distress among young adults 18–26 years in the United States. *Frontiers in Public Health, 12,* 1485513. DOI: 10.3389/fpubh.2024.1485513

NEFE (2018). *Financial Fragility in the US: Evidence and Implications. National Endowment for Financial Education*. Retrieved from: https://www.nefe.org/research/research projects/completed-research/2018/financial-fragility-in-the-us-evidence-and implications.aspx

Nguyen Vu, N., & Scott, J. (2017). *Financial Capability: Literacy, Behavior, and Distress*. DOI: http://dx.doi.org/10.2139/ssrn.3178367

Prawitz, A.D., Garman, E.T., Bernoit, S., O'Neill, B., Kim, J., & Drentea, P. (2006). InCharge Financial Distress/Financial Well-Being Scale: Development, Administration, and Score Interpretation. *Financial Counselling and Planning, 17*(1), 34-50. DOI: 10.1037/t60365-000

The Ohio State University (2023). *Student Financial Wellness in 2020 and 2023. Study on Collegiate Financial Wellness*. Retrieved from: scfw-2023-financial-wellness-comparison-to-2020-tagged.pdf

Rehr, T.I., Regan, E.P., Abukar, Z., & Meshelemiah, J.C. (2022). Financial Wellness of First-Generation College Students. *College Student Affairs Journal, 40*(1), 90-105. DOI: https://dx.doi.org/10.1353/csj.2022.0007.

Riitsalu, L., Sulg, R., Lindal, H., Remmik, M., & Vain, K. (2024). From Security to Freedom— The Meaning of Financial Well-being Changes with Age. *Journal of Family and Economic Issues*, *45*, 56–69 (2024). DOI: https://doi.org/10.1007/s10834-023-09886-z

Ryu, S., & Fan, L. (2023). The Relationship Between Financial Worries and Psychological Distress Among U.S. Adults. *Journal of family and economic issues*, *44*(1), 16–33. DOI: https://doi.org/10.1007/s10834-022-09820-9

Sayilir, Ö., Ilhan, Z., & Yılmaz, V. (2019). Financial Distress of Adults: A Survey in Eskişehir, Turkey. *Gazi Journal of Economics & Business*, *5*(3),160-169. DOI: 10.30855/gjeb.2019.5.3.002

Sivarajah, K., Achchuthan, S., & Umanakenan, R. (2014). Financial Stress and Personal Characteristics of the School Teachers: Evidence from Sri Lanka. *Public Policy and Administration Research*, *3*(4), 40-49. Retrieved from: https://core.ac.uk/download/pdf/234669125.pdf

Sorgente, A., Zambelli, M., & Lanz, M. (2023). Are Financial Well-Being and Financial Stress the Same Construct? Insights from an Intensive Longitudinal Study. *Social Indicators Research, 169*, 553–573. DOI: https://doi.org/10.1007/s11205-023-03171-0

Taft, M. K., Hosein, Z. Z., Mehrizi, S. M. T., & Roshan, A. (2013). The relation between financial literacy, financial wellbeing and financial concerns. *International Journal of Business and Management*, *8*(11), 63-75. DOI: 10.5539/ijbm.v8n11p63

Vosloo, W., Fouché, J., & Barnard, J. (2014). The relationship between financial efficacy, satisfaction with remuneration and personal financial well-being. *The International Business & Economics Research Journal, 13*(6), 1455. DOI: 10.19030/iber.v13i6.8934

Vitellozzi, S., Cecchi, F., & Rapallini, C. (2024). The invisible family load and the gender earnings gap in Kenya. *European Economic Review*, *172*, 104934. DOI: https://doi.org/10.1016/j.euroecorev.2024.104934

West, T. M., & Cull, M., & Johnson, D. (2021). Income more important than financial literacy for improving wellbeing. *Financial Services Review, 29*(3), 187 - 207. DOI: 10.61190/fsr.v29i3.3456

Zhou, Y., Lu, W., Liu, C., & Gan, H. (2023). The gender gap in financial distress. *Applied Economics, 56*(51), 6375–6390. DOI: https://doi.org/10.1080/00036846.2023.2273241