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Factors Influencing Students' Dropout Intentions in Ho Chi Minh City, Vietnam

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Abstract: The increasing number of students intending to drop out of universities in Vietnam has raised concerns. While previous studies have addressed factors influencing dropout intentions, several aspects still need to be explored, particularly in developing countries like Vietnam. This research provides an overview of the factors influencing students' dropout intention in Ho Chi Minh City. The study employs the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach with a survey sample of 804 students from universities in Ho Chi Minh City. The research findings reveal that factors such as Lack of university commitment (LUC), degree and course commitment (DCC), ineffective time management (ITM), curriculum design (CD), Ineffective adaptation to learning environment (IALE), low classroom participation (LCP) and personal circumstances (PC) significantly influence students' dropout intentions. Additionally, factors including skills and attitudes of instructors (SAI), instructor support (IS), positive instructor feedback (PIF), university facilities (UF), cultural and social environment (CSE), and access to support from academic advisors (ASA) do not show statistically significant relationships with students' dropout intention. Furthermore, the study finds no significant differences in dropout intention based on gender, area, and type of university, except for ASA has a differential impact on students' dropout intentions based on the type of university. The research results provide valuable insights for researchers and educational experts to understand better the factors contributing to students' dropout intentions. Moreover, the findings assist educational managers and instructors in developing appropriate support measures and interventions to enhance student engagement throughout their academic journey. Finally, the study discusses limitations and suggests future research directions.

Keywords: Dropout intentions, higher education, Ho Chi Minh City.

Introduction

Education is one of the foremost concerns for countries worldwide. The sustainable development of a nation relies not only on its economic, social, and cultural conditions but also on improving its education system. Especially with the advent of the Fourth Industrial Revolution, the role of education is increasingly emphasized in developing a high-quality workforce. There has been an increase in the number of students enrolling in higher education institutions annually in foreign countries. However, the number of students who want to leave university without obtaining a degree has also significantly increased (Schnettler et al., 2020). Approximately 15% of university students intend to drop out, which has become a severe issue (Sheldon and Epstein, 2004). According to the STEM (Science, Technology, Engineering, Mathematics) education approach, the estimated dropout rate of students is around 40-50%. The dropout status of students not only negatively affects the students themselves and the university and society as a whole (Schnettler et al., 2020).

In Vietnam, universities have also observed numerous cases of student dropouts. For example, Industrial University of Ho Chi Minh City has issued warnings to 2,252 students who voluntarily dropped out. University of Transport and Communication has warned 2,135 students regarding their academic performance, with 257 students facing expulsion. The Ho Chi Minh City University of Technology and Education has removed the names of over 450 students forced to discontinue their studies. The Ho Chi

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Minh City University of Industry and Trade has over 2,500 students with long-standing tuition fee debts, putting them at risk of being banned from taking final exams. The University of Sciences - Vietnam National University Ho Chi Minh City has decided to expel 454 students and issue academic warnings to another 605 individuals. Statistical data demonstrates an increasing trend of student dropouts in Vietnamese universities, highlighting the urgent need for measures to mitigate this issue.

Several studies have focused on the factors influencing students' intention to drop out before completing their university education. Orion, Forosuelo, and Cavalida (2014) found that factors influencing students' dropout intentions include school policies and practices, financial resources, academic performance, and teaching programs. Willcoxson (2010) concluded that the factors influencing dropout intentions differ among students in the first, second, and third years of university. Farr-Wharton et al. (2018) demonstrated the impact of lecturer-student exchange (student-LMX) on engagement, course satisfaction, achievement, and intention to leave university among 363 students in an Australian university. Schnettler et al. (2020) indicated that costs, age, and difficulties in the learning process tend to make students more likely to drop out. Lundquist, Spalding, and Landru (2002) concluded that females are more prone to dropping out than males, and factors such as lack of faculty support, unresponsive faculty to phone/email inquiries, and complicated faculty-student interactions increase students' inclination to leave the university. Bakker et al. (2021) found that supervisor and co-worker support are negatively related to the intention to leave among nursing students. During the Covid-19 pandemic, several studies have explored the factors influencing students' dropout intentions. Chi, Randall, and Hill (2021) showed that the COVID-19 pandemic affects students' mental health and dropout intentions, with those experiencing anxiety or depression symptoms and burnout being more likely to consider dropping out compared to those without mental health issues. Mtshweni (2021) investigated the factors influencing the intention to drop 955 students from a university in South Africa, including social adjustment, personal-emotional adjustment, institutional attachment, and socioeconomic status. Baalmann et al. (2022) demonstrated that parental educational aspirations, students living in partnerships, and close friends have an impact on students' dropout intentions among a sample of 7,169 students in a German university. Matteau et al. (2023) revealed that excessive commitments and conflicts between work, study, and personal life are associated with higher levels of psychological stress and the intention to leave university.

The literature review shows that research on students' dropout intentions has received significant attention from scholars worldwide. The factors influencing students' dropout intentions are diverse and depend on each country's timeframe and organizational cultural characteristics. Some factors influencing dropout intentions mentioned by Willcoxson (2010) are general, comprehensive, specific, and relevant to the Vietnamese context. However, Willcoxson (2010) examined the differences in factors affecting dropout intentions across semesters and among first-, second-, and third-year students but needed to determine the impact level of each factor on students' dropout intentions. Moreover, the factors mentioned, such as commitment to the institution, degree/course commitment, time management, teaching skills and attitudes of instructors, accessibility and support from instructors, course design, feedback, ineffective adaptation to the learning environment, class participation, infrastructure, socio-cultural environment, accessibility and support from counseling, and personal circumstances that align with the context and culture of first, second, and third-year students in Vietnamese universities.

This research aims to provide an overview of the factors influencing students' dropout intentions in universities within Ho Chi Minh City. While many studies have identified a range of factors that may contribute to students' dropout intentions, there still needs to be clear validation regarding the level of impact of each factor. Therefore, the contribution of this study is to clarify the degree of influence of these factors on students' dropout intentions in universities within Ho Chi Minh City, where extensive validation studies still need to be completed. This research utilizes a non-probability and convenient sampling method to collect data from the survey participants easily. The study's geographical scope is limited to the inner city and suburban areas of Ho Chi Minh City. The research has two main objectives: 1) identifying the factors influencing students' dropout intentions within the Ho Chi Minh City area, and 2) proposing managerial implications to improve these factors to reduce students' dropout intentions within the Ho Chi Minh City area.

Definition of dropout intentions

According to, Pijl, Frostad, and Mjaavatn (2014), early dropout refers to needing to complete an educational program or complete it with significant delays. Additionally, Schwab (2018) suggests that when individuals intend to leave school, they quickly focus on the desire to discontinue their education. Therefore, dropout is considered the final step in intending to leave school before early dropout occurs. According to, Gury (2011), dropout occurs when students discontinue their studies without intending to

continue in the initially registered field of study or the institution they attend. Fitzpatrick and Yoels (1992), define dropout as students who leave an educational institution without completing their program within the next four years, regardless of whether they return to school later and graduate. Furthermore, dropout can refer to individuals participating in a school course who do not wish to complete the high school program within five years (Pijl, Frostad, and Mjaavatn (2014)).

Based on the definitions provided above, the dropout intentions can be defined as not completing an educational program or completing it with significant delays, not continuing in the initially registered field of study or institution, leaving school without graduating within a specific timeframe, or not wanting to complete the academic program within a certain period.

Research hypothesis development

Students have various reasons for choosing to attend a university, including personal purposes such as academic pursuit, proximity to their residence, reputation, quality of education, and the quality of facilities at the institution. Based on their criteria, students can evaluate suitable universities and select a school that meets their conditions. The choice of university has a specific impact on students' subsequent intention to drop out, especially in cases where students do not gain admission to their desired university and must attend an alternative institution. Willcoxson (2010) also indicates that students are more likely to leave university when they lack organizational commitment and receive insufficient guidance regarding enrollment choices. This situation commonly occurs among first-year students. From the research findings, Willcoxson (2010) determines that when students fail to gain admission to their desired university, the likelihood of them forming an intention to drop out increases significantly. Furthermore, during their studies at the alternative university, students still hope to gain admission to their initial desired university and attend the substitute university as a stepping stone to transfer to another university, thereby increasing their intention to drop out (Willcoxson, 2010). Bean (1980) analyzed a model contributing to student dropout and found a correlation between student commitment and the intention to drop out. This study demonstrates that students need more commitment to the institution to increase their intention to drop out and continue their educational journey.

H1: The lack of university commitment positively impacts student's dropout intentions in Ho Chi Minh City.

MacKie (2001) demonstrates that students who engage in courses over multiple years face similar difficulties as those who have dropped out before completing their studies. However, the remaining people exhibit more substantial commitment and attachment to the institution. Students who stay in school are more likely to overcome challenges than those who have dropped out (Nieudwoudt and Pedler, 2021). Students with explicit purposes for pursuing a specific field of study are more likely to intend to enroll in that particular academic program at the university. Yorke and Longden (2008) indicate that strong academic commitment is associated with stability and persistence in students' studies, while weak commitment may lead to an intention to drop out. Tinto (2012) also suggests that solid academic commitment positively impacts students' continued engagement in learning activities and reduces the likelihood of dropping out. Therefore, universities with a clear commitment to degree programs and the career-related benefits they offer, aligning with students' prospects, enhance students' commitment and attachment to the university.

H2: Degree and course commitment negatively impact student's dropout intentions in Ho Chi Minh City

Swick (1987) argues that many students perceive the academic process as highly stressful. Time management is a university counseling service (Macan and Shahani, 1990). Students also need help to allocate their time effectively and balance it with work and personal life (Burke et al., 2017). Time is a significant factor influencing students' daily lives. When time management skills are weak, such as inadequate time allocation or last-minute cramming for exams, it is discussed as a cause of stress and a decline in academic performance (Longman and Atkinson, 1988). The issues mentioned above occurring consistently over an extended period can discourage students, resulting in a gradual formation of the intention to drop out (Nieudwoudt and Pedler, 2021). Students struggling to balance their personal time and study time at the university and those struggling with effective time management are more likely to have an increased intention to drop out (Willcoxson, 2010).

H3: Ineffective time management positively impacts as students' dropout intentions in Ho Chi Minh City.

Willcoxson (2010) found that reducing students' intention to drop out is related to building trust, fostering learning expectations, improving teaching quality, providing support, and creating a vibrant learning environment and social activities. Additionally, the emerging tendency of students to consider dropping out is also linked to the teaching skills and attitudes of the faculty. Students perceive enthusiastic support from instructors, a sense of closeness, provision of comprehensive learning materials, and timely and positive feedback as factors that reduce their intention to drop out (Willcoxson, 2010). Social support, learning experiences, and an engaging learning environment, along with institutional support, are factors that influence students' decision to remain in school (Nieudwoudt and Pedler, 2021). Poor interaction or communication with instructors and mentors can lead to students' intention to drop out (Nieudwoudt and Pedler, 2021).

H4: Skills and attitudes of instructors negatively impact student's dropout intentions in Ho Chi Minh City.

Glogowska, Young, and Lockyer (2007) demonstrate that students' determination, career commitment, social support, and student services provided by the university contribute to student retention. Natoli, Jackling, and Siddique (2015) conclude that student support services offered by the university are an essential factor in influencing students' intention to stay in school. The institution's provision of facilities, faculty, programs of study, student support services, and engagement in academic activities all contribute to student retention (Kuh et al., 2007). Instructor members who are willing to address students' concerns and understand their difficulties in learning create enthusiasm for studying and reduce students' thoughts of dropping out.

H5: Instructor support negatively impacts student's dropout intentions in Ho Chi Minh City.

Willcoxson (2010) argues that carefully designed and logically structured courses with reliable information yield high educational effectiveness. Instructors who incorporate real-life examples in their lectures help students quickly understand and apply the subject to practical work situations (Willcoxson, 2010). Furthermore, university support for students to engage in experiential learning and work opportunities in companies enhances their knowledge and skills, reducing their intention to drop out. A flexible curriculum can make students feel more comfortable dropping out. Rovai and Jordan (2004) have demonstrated that program flexibility can increase students' commitment and intention to continue their studies. Bransford (2000) emphasizes the importance of applying knowledge to real-life situations, connecting knowledge with reality, and applying it in daily life to help students recognize the value of learning and enhance their commitment to education.

H6: The curriculum design negatively impacts students' intention to drop out in Ho Chi Minh City.

Case (2007) demonstrates that feedback is crucial in promoting student improvement by addressing errors, lessons' shortcomings, and areas needing improvement. Faculty support has a positive impact on academic performance and student engagement. If instructors fail to meet students' expectations or requirements, harmful or ineffective feedback can lead to disappointment and strengthen the intention to drop out (Hausmann, Schofield and Woods, 2007).

H7: Positive instructor feedback negatively impacts students' dropout intentions in Ho Chi Minh City.

When participating in courses at school, students may encounter difficulties in comprehending knowledge, struggle to adapt and keep up with the teaching methods of instructors, find it challenging to understand specialized materials and feel overwhelmed by the workload. These factors can lead to student frustration, a lack of self-belief in their ability to perform well in the courses, decreased motivation to study, and an increased intention to drop out (Willcoxson, 2010). Eccles and Wigfield (2002) suggest that students' positive adaptation to the learning environment often leads to a more substantial commitment to the learning process and a higher likelihood of sustaining their studies and completing the courses. Effective adaptation can help students reduce stress and pressure in the learning process, which can

contribute to the intention to drop out (Eisenberg et al., 2007). Kember, Biggs and Leung (2004) have demonstrated the relationship between adaptation to the learning environment and students' academic performance, showing that well-adapted students tend to have higher grades, more stable academic performance, and maintain their intention to study throughout the program.

H8: Ineffective adaptation to the learning environment positively impacts students' dropout intentions in Ho Chi Minh City.

According to empirical research surveys, many students who drop out initially show commitment but fail to follow through (MacKie, 2001). Regular class truancy and non-participation positively correlate to dropout (Willcoxson, 2010). Classroom engagement often provides valuable learning opportunities. When students participate or participate minimally, they may take advantage of opportunities to understand and acquire the necessary knowledge to achieve better results in assessments (Pascarella and Terenzini, 1991). Kuh et al. (2008) have shown that classroom engagement is often correlated with academic performance, with lower levels of engagement resulting in poorer academic outcomes and higher intentions to drop out. Classroom engagement reflects the commitment to the learning process. Students who participate less in class may need more commitment and determination to complete the course (Feldman, 1994).

H9: Low classroom participation positively impacts students' dropout intentions in Ho Chi Minh City.

Good facilities create a conducive and comfortable learning environment that caters to the needs of students and minimizes the likelihood of students intending to drop out. Good facilities influence student satisfaction, impact student confidence (Omar et al., 2009), and shape future planning intentions (Clemes, Gan and Kao, 2008). Reynolds (2007) analyzed the correlation between facilities and student recruitment and retention. Classrooms that provide a high-quality learning environment, spacious and well-ventilated libraries with diverse resources to support learning, and an information technology system that meets students' usage needs have a reverse correlation with students' intention to drop out (Willcoxson, 2010).

H10: The university facilities negatively impact students' dropout intentions in Ho Chi Minh City.

The cultural and social environment significantly influences students' dropping out. Students may feel helpless, isolated, and unwilling to continue their education when this environment is not friendly. Conversely, when positive relationships characterize the environment, students will receive support and encouragement to continue their studies. Research has shown that the cultural and social environment impacts student satisfaction (Kahu, 2013). According to Willcoxson (2010), minimizing student dropout requires providing facilities that meet social needs and are compatible with students' religious/cultural requirements.

H11: The cultural and social environment negatively impacts students' intention to drop out in Ho Chi Minh City.

Access to information and support from academic advisors increases student retention (Crosling, Thomas and Heagney, 2009). Student retention depends not only on individual factors such as motivation and academic achievement but also on external factors such as access to support and resources (Cabrera et al., 2006). Access to information, guidance, and counseling from academic advisors and classmates, as well as academic and social support services, can be crucial in the decision to continue or withdraw from university (Tinto and Pusser, 2006). Students with access to high-quality support services are more likely to be motivated and have higher retention rates (Tinto and Pusser, 2006). Students receiving good advice from advisors regarding career choices or quickly receiving assistance when needed have a reverse correlation with their intention to drop out (Willcoxson, 2010).

H12: Access to support from academic advisors negatively impact students' dropout intentions in Ho Chi Minh City.

Students who face financial difficulties often spend more time working than studying (Peltz et al., 2021). Financial difficulties negatively impact students' commitment to their studies (Willcoxson, 2010). Studies have found that students with high intentions to drop out often face financial hardships and work

an average of more than 16 hours per week (Leveson, McNeil and Joiner, 2013). Bean (1980) examined the impact of personal circumstances on students' decision to drop out. The results showed that the impact of difficult personal circumstances can lead to an intention to drop out. Pascarella and Terenzini (1991) demonstrated that the university environment and students' circumstances influence the decision to continue their education. The results also indicated that personal circumstances can be essential to the dropout decision process. Students' concerns about mental health, physical health, homesickness, or accumulating debt positively correlate with their intention to drop out (Willcoxson, 2010).

H13: Personal circumstances positively impact students' dropout intentions in Ho Chi Minh City.

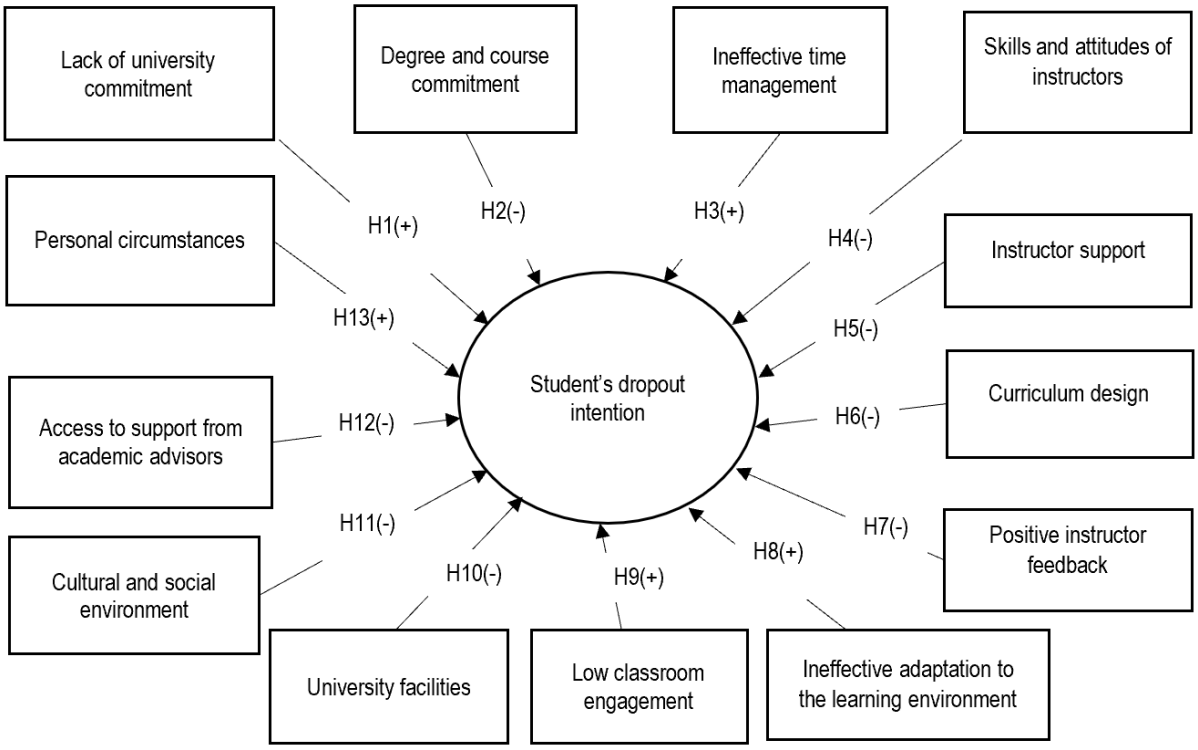

Figure 1. Proposed research model

Materials and Methods

Process research: A mixed-methods research approach combining qualitative and quantitative research methods was used in this study.

Preliminary qualitative and quantitative research: A group interview method was employed with 15 students in the qualitative phase of the study. The research topic involved collecting opinions from first-, second-, and third-year students at public and private universities in suburban and urban areas of Ho Chi Minh City. The group discussion aimed to identify factors influencing the intention to drop out and refine the measurement scales of the research concepts to align with the research context. The results of the interviews were synthesized and adjusted to form a draft measurement scale to support the preliminary quantitative research and the formal quantitative research. Subsequently, a survey was conducted with 80 students to evaluate the reliability using Cronbach's Alpha coefficient and perform Exploratory Factor Analysis (EFA) to examine the convergent and discriminant validity of the measurement scale.

Formal quantitative research: The study utilized the Bootstrapping technique with a sample size of N = 5000 to test the hypotheses. This step was employed to evaluate the measurement model and the structural model:

The measurement model was assessed by examining measurement scale reliability, composite reliability, convergent validity, and discriminant validity. To ensure the reliability of the measurement scales, Cronbach's alpha coefficient and Composite Reliability (CR) should exceed 0.6 (Hair Jr et al., 2009). The Average Variance Extracted (AVE) of each construct in the model should be greater than 0.5, based on the criteria proposed by Shiau, Sarstedt and Hair (2019). The study followed the criteria of Fornell and

Larcker (1981) to test the discriminant validity of the measurement scales, where the square root of the AVE of each construct should be greater than the correlation coefficient between that construct and the other constructs in the model.

The structural model was evaluated based on criteria such as the coefficient of determination (R2), predictive relevance (Q2), and effect size (f^2). The coefficient of determination (R2) values of the model were interpreted as follows: weak (R2 = 0.02), moderate (R2 = 0.16), and robust (R2 = 0.26) explanations of the model variance (Cohen, 2013). The Stone-Geisser Q^2 criterion was used for predictive relevance assessment, following the evaluation standards proposed by Henseler, Ringle, and Sinkovics (2009): weak prediction (Q2 < 0,02); moderate prediction (Q2 within [0,02; 0,35]), and strong prediction (Q2 > 0,35). Lastly, the effect size (f^2) between corresponding components was examined, with weak effect (f^2 = 0.02), moderate effect (f^2 = 0.15), and substantial effect (f^2 = 0.35) based on the criteria of Henseler, Ringle and Sinkovics (2009).

Scale measurement: The research model consists of 13 research constructs. The dependent variable is Dropout Intentions, which was adopted by Farr-Wharton et al. (2018). The independent variables include Lack of university commitment, Degree and course commitment, Ineffective time management, teaching skills and attitudes of instructors, Instructor support, Curriculum design, Positive instructor feedback, Ineffective adaptation to the Learning Environment, Low Classroom Engagement, University facilities, Cultural and social environment, Access to support from academic advisors, and Personal Circumstances. These independent variables were inherited and adjusted from the study by Willcoxson (2010). These independent variables were inherited and adjusted from the study by Willcoxson (2010). There are a total of 74 observed variables, and they were measured using a 5-point Likert scale: (1) Strongly Disagree, (2) Disagree, (3) Neutral, (4) Agree, and (5) Strongly Agree (see Table 1).

Table 1
Scale measurement

Constructs	Symbol	No. observations	Scale sources
Student's dropout intentions	SDI	4	Farr-Wharton et al. (2018)
Lack of university commitment	LUC	5	Willcoxson (2010)
Degree and course commitment	DCC	3	
Ineffective time management	ITM	4	
Skills and attitudes of instructors	SAI	7	
Instructor support	IS	5	
Curriculum design	CD	3	
Positive instructor feedback	PIF	2	
Ineffective adaptation to learning environment	IALE	7	
Low classroom participation	LCP	10	
University facilities	UF	5	
Cultural and social environment	CSE	7	
Access to support from academic advisors	ASA	7	
Personal circumstances	PC	5	

(Source: own author)

Formal sample

Survey Sample Criteria: First- year, second- year, and third- year university students studying at expected public and private universities located within the inner city and suburban areas of Ho Chi Minh City. This study did not survey fourth-year students as they rarely intend to drop out.

Sampling Method: The study employed a non-probability convenience sampling method. The

survey questionnaire was distributed directly and online through Google Forms at various universities in Ho Chi Minh City. The survey was conducted from February 13, 2023, to March 16, 2023.

Data Analysis Method: The study utilized Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the data. This method was chosen due to its advantage in handling small sample sizes and data that do not follow normal distribution assumptions (Shiau, Sarstedt and Hai, 2019).

Formal Sample: The survey results yielded 804 valid responses. Therefore, the study used 804 observations as the formal sample for this research.

Results

Sample characteristics

Gender breakdown with the number of female students being 392 (48.8%) and the number of male students being 412 (51.2%). Next is the breakdown of students by academic year, with 239 (29.7%) first-year students, 261 (32.5%) second-year students, 304 (37.8%) third-year students, and no fourth-year students. Following that is the breakdown of students by major, with the corresponding number of students in each major. The majors listed are Engineering with 163 students (20.3%), Economics - International Trade with 133 students (16.5%), Business - Management with 158 students (19.7%), Foreign Languages with 63 students (7.8%), Information Technology (IT) with 64 students (8.0%), Social Sciences and Humanities with 25 students (3.1%), and other majors with 198 students (24.6%). Next is the geographical breakdown, with the number of suburban students being 284 (35.3%) and the number of downtown students being 520 (64.7%).

The university group includes various universities, with the corresponding number of students in each university. The listed universities are Open University of Ho Chi Minh City with 70 students (8.7%), Ho Chi Minh City University of Transport with 60 students (7.5%), Industrial University of Ho Chi Minh City with 184 students (22.9%), Ho Chi Minh City University of Technical Education with 71 students (8.8%), Nong Lam University with 80 students (10.0%), Van Lang University with 71 students (8.8%), UEF School of Economics and Finance with 53 students (6.6%), HUTECH University with 62 students (7.7%), Nguyen Tat Thanh University with 79 students (9.8%), and FPT University with 74 students (9.2%). Finally, the group with intentions to drop out is divided into two categories: those with intentions to drop out, totaling 206 (25.6%), and those without intentions to drop out, totaling 598 (74.4%).

Table 2

Participants' Characteristics

Characteristics		Frequency	(%)
Gender	Female	392	48.8%
	Male	412	51.2%
Student	First-year	239	29.7%
	Second- year	261	32.5%
	Third- year	304	37.8%
	Fourth- year	0	0.0%
Field of study	Engineering	163	20.3%
	Economics - International Trade	133	16.5%
	Business - Management	158	19.7%
	Foreign Languages	63	7.8%
	Information Technology (IT)	64	8.0%
	Social Sciences and Humanities	25	3.1%
	Other	198	24.6%
Area	Suburban	284	35.3%
	Urban	520	64.7%
University name	HCMC Open University	70	8.7%
	University of Transport and Communication	60	7.5%
	Industrial University of HCMC	184	22.9%
	HCMC University of Technology and Education	71	8.8%
	Nong Lam University	80	10.0%
	Van Lang University	71	8.8%
	University of Economic and Finance	53	6.6%
	HCMC University of Technology	62	7.7%
	Nguyen Tat Thanh University	79	9.8%
	FPT University	74	9.2%
Have you had intentions to drop out?	No	598	74.4%
	Yes	206	25.6%

(Source: own author)

Scale evaluation: In the PLS-SEM method, the outer loadings criterion is used to evaluate the importance of predictor variables in the model. According to Henseler, Ringle and Sinkovics (2009), factor loadings > 0.5 are considered. Factor loadings below 0.5 will be excluded from the measurement scale in the model.

Table 3
Scale reliability

Constructs	No. observations	Cronbach's alpha	Average variance extracted (AVE)
DCC	3	0.797	0.712
UF	4	0.873	0.722
LCP	10	0.665	0.748
IS	5	0.684	0.7
IALE	7	0.685	0.605
PIF	2	0.85	0.862
LUC	5	0.654	0.591
SAI	7	0.881	0.681
ITM	4	0.83	0.658
CD	3	0.81	0.725
ASA	7	0.919	0.749
PC	5	0.808	0.567
CSE	7	0.88	0.892
SDI	4	0.805	0.631

(Source: own author)

Table 3 presents the reliability testing results, including Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE) for the measurement scales in the model. The statistical table shows that the Cronbach's alpha values of the measurement scales are all above 0.7, ensuring reliability for use (Nunnally, 1978). Therefore, the variables will be retained and utilized in the subsequent steps. Hair et al. (2019), state that a Composite Reliability (CR) value greater than 0.7 ensures reliability. Based on the results in Table 3, all measurement scales have CR values above 0.6, except for the LCP, IS, ALE and LUC scales. Lastly, the Average Variance Extracted (AVE) for all measurement scales is more significant than 0.5, ensuring reliability (Hair et al., 2019). Hence, most measurement scales in the research model demonstrate satisfactory reliability.

Table 4
Scale statistical value

Items	Mean	SD	Factor loadings
Student's dropout intentions (SDI)			
SDI1: I often think about dropping out of school.	2.065	1.208	0.75
SDI2: I am actively seeking job opportunities and alternative learning options, so I may leave the university.	2.044	1.123	0.815
SDI3: There is a possibility that I will drop out of university within the next year.	2.061	1.268	0.749
SDI4: I am looking for suitable timing to drop out of school.	1.769	1.092	0.857
Lack of university commitment (LUC)			

LUC1: I am studying at this university as a steppingstone to transfer to another university.	1.924	1.138	0.922
LUC3: I am attending this university because I did not meet the requirements of other preferences.	2.897	1.431	0.577
Degree and course commitment (DCC)			
DCC1: I have obvious reasons for studying at this university.	3.596	1.098	0.867
DCC2: I can enroll in the course/program that I have chosen.	3.799	0.969	0.856
DCC3: I know what profession I want to pursue in the future.	3.506	1.138	0.807
Ineffective time management (ITM)			
ITM1: It is difficult to balance personal time and study time at the university.	3.073	1.119	0.798
ITM2: I struggle with managing study time effectively.	3.163	1.159	0.796
ITM3: It is challenging to balance family responsibilities and university studies.	2.667	1.18	0.848
ITM4: It is challenging to balance work and university studies.	2.846	1.221	0.803
Skills and attitudes of instructors (SAI)			
SAI1: The professors are enthusiastic and dedicated in their teaching.	3.9	0.981	0.906
SAI2: The professors are skilled at explaining things.	3.755	0.977	0.887
SAI3: The professors always strive to make the classes interesting.	3.795	0.986	0.865
SAI4: The faculty team clearly communicates their expectations from the students right from the beginning.	3.841	0.991	0.818
SAI5: The professors always create a sense of closeness with the students.	3.749	1.43	0.62
Instructor support (IS)			
IS4: The faculty team is always available when I need them.	3.68	1.699	0.768
IS5: My professors genuinely make an effort to understand the difficulties students face in their learning process.	3.641	0.974	0.9
Curriculum design (CD)			

CD1: My professors incorporate real-life examples into their teaching curriculum.	3.851	0.92	0.856
CD2: What I am learning at the university has been researched and proven.	3.745	0.919	0.889
CD3: I am satisfied with the job experiential opportunities introduced by the university.	3.582	0.993	0.807
Positive instructor feedback (PIF)			
PIF1: I received helpful feedback on the assessment tasks.	3.519	0.923	0.964
PIF2: I received prompt feedback on the tasks.	3.437	0.954	0.891
Ineffective adaptation to learning environment (IALE)			
IALE2: My study program is too demanding.	3.085	0.969	0.793
IALE4: I find it difficult to understand various study materials.	3.345	0.995	0.693
IALE5: I struggle to adapt to the teaching methods at the university.	2.988	1.064	0.841
Low classroom participation (LCP)			
LCP7: I frequently skip classes.	2.311	1.309	0.882
LCP8: I don't attend classes because the study materials are available on the website.	2.567	1.208	0.847
University facilities (UF)			
UF1: The classrooms provide a high-quality learning environment.	3.624	1.004	0.846
UF2: The library is spacious, well-ventilated, and offers a diverse range of study materials.	3.827	0.97	0.876
UF3: The information technology system meets my usage needs.	3.562	1.035	0.859
UF4: The classrooms are very spacious.	3.586	1.012	0.817
Cultural and social environment (CSE)			
CSE1: The facilities of the university meet my social needs.	3.545	1.023	0.937
CSE2: The facilities of the university are suitable for my religious/cultural needs.	3.585	0.98	0.952
Access to support from academic advisors (ASA)			

ASA1: I receive good advice from the university regarding career choices.	3.397	0.995	0.893
ASA2: I receive good advice from a career counselor in choosing a profession for myself.	3.387	1.045	0.907
ASA3: I receive good advice from the university regarding career choices.	3.429	1.03	0.92
ASA4: I easily receive assistance when needed from the management team.	3.435	0.999	0.842
ASA5: The management team is always ready to assist when I need them.	3.427	1.019	0.754
Personal circumstances (PC)			
PC1: I worry about my mental health.	3.075	1.21	0.82
PC2: I worry about my physical health.	3.039	1.202	0.821
PC3: I often feel homesick.	3.213	1.309	0.584
PC4: I worry about the accumulating debt while studying at university.	2.976	1.393	0.774
PC5: I have financial issues.	3.06	1.351	0.742

(Source: own author)

Table 4 presents the descriptive statistics, standard deviations, and factor loadings of the variables after variable elimination. The results show that all factor loadings are greater than 0.7, except for SAI5 and PC3, but they are retained to ensure content validity. The measurement scales used in the research model exhibit convergence.

Table 5
The discriminant validity testing

	DCC	PC	UF	LCP	IS	IALE	PIF	LUC	SAI	ITM	CD	ASA	CSE	SDI
DCC	**0.844**													
PC	-0.053	**0.753**												
UF	0.348	-0.017	**0.85**											
LCP	-0.101	0.205	-0.036	**0.865**										
IS	0.284	-0.013	0.454	0.001	**0.837**									
IALE	0.017	0.309	0.007	0.23	0.12	**0.778**								
PIF	0.349	0.024	0.519	0.034	0.463	0.147	**0.928**							
LUC	-0.047	0.193	-0.066	0.214	-0.022	0.208	0.025	**0.769**						
SAI	0.396	-0.034	0.508	-0.107	0.615	0.026	0.512	-0.109	**0.825**					
ITM	-0.007	0.3	-0.007	0.21	0.036	0.331	0.08	0.232	-0.01	**0.811**				
CD	0.424	-0.022	0.533	-0.088	0.53	0.081	0.622	-0.027	0.669	0.000	**0.852**			
ASA	0.377	0.051	0.542	0.059	0.472	0.102	0.574	0.023	0.494	0.038	0.55	**0.865**		
CSE	0.352	0.046	0.669	-0.007	0.429	0.038	0.481	-0.016	0.465	0.061	0.491	0.524	**0.945**	
SDI	-0.193	0.262	-0.144	0.284	-0.113	0.27	-0.083	0.389	-0.215	0.326	-0.19	-0.087	-0.09	**0.794**

(Source: own author)

Table 5 presents the discriminant validity test results for the model's latent variables using the criteria set by Fornell and Larcker (1981). The table shows that all square root of the average variance extracted (AVE) values for each research variable are more significant than the correlation coefficients between that variable and the remaining variables in the model. Therefore, the measurement scales for the research variables all demonstrate discriminant validity.

Model evaluation: The estimation results of the model using the Bootstrapping method with a sample size of 5,000 are depicted in Figure 2.

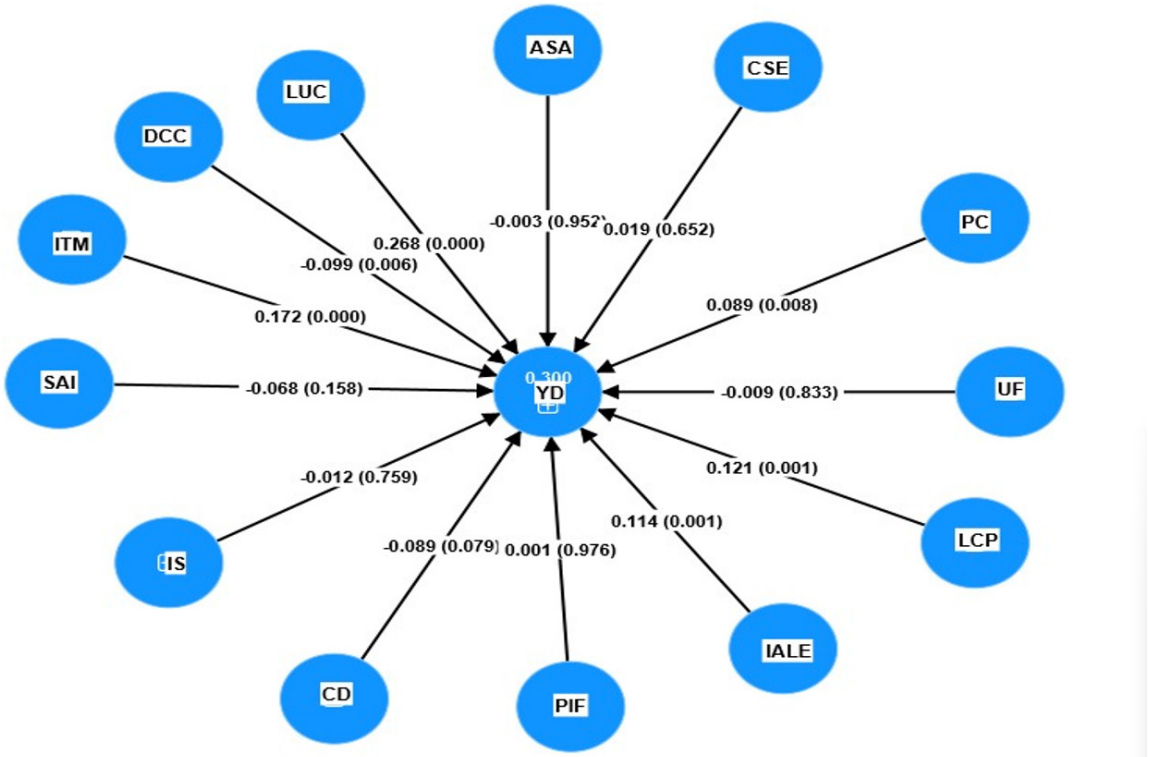

Figure 2. PLS-SEM estimation results

Table 6
Hypothesis test results

Hypotheses	Path relations	Estimation		SD	T	P values	Conclusion
		Beta (β)	Bootstrapping (B)				
H_1	LUC -> SDI	0.268	0.268	0.038	7.043	0.000	Accepted
H_2	DCC -> SDI	-0.099	-0.1	0.036	2.724	0.006	Accepted
H_3	ITM -> SDI	0.172	0.172	0.033	5.146	0.000	Accepted
H_4	SAI -> SDI	-0.068	-0.064	0.048	1.41	0.158	Rejected
H_5	IS -> SDI	-0.012	-0.014	0.038	0.307	0.759	Rejected
H_6	CD -> SDI	-0.089	-0.088	0.051	1.759	0.079	Accepted
H_7	PIF -> SDI	0.001	0.000	0.042	0.03	0.976	Rejected
H_8	IALE -> SDI	0.114	0.116	0.035	3.21	0.001	Accepted
H_9	LCP-> SDI	0.121	0.123	0.035	3.43	0.001	Accepted
H_{10}	UF-> SDI	-0.009	-0.012	0.044	0.211	0.833	Rejected
H_{11}	CSE -> SDI	-0.003	-0.008	0.042	0.06	0.952	Rejected
H_{12}	ASA -> SDI	0.019	0.022	0.041	0.451	0.652	Rejected
H_{13}	PC-> SDI	0.089	0.09	0.033	2.663	0.008	Accepted
R^2	30%						
f^2	$f^2_{BC->SDI}$ = 0.01; $f^2_{PC->SDI}$ = 0.009; $f^2_{LCP->SDI}$ = 0.018; $f^2_{IALE->SDI}$ = 0.015; $f^2_{LUC->SDI}$ = 0.09; $f^2_{SAI>SDI}$ = 0.003; $f^2_{ITM->SDI}$ = 0.034; $f^2_{CD->SDI}$ = 0.005						
Stone-Geisser's Q^2	0.178						

(Source: own author)

The quality of the proposed model is assessed through the R2 values and the Stone-Geisser index (Q2). Table 6 shows that the R2 value for SDI is 0.30, more significant than 0.26. According to Cohen (2013) evaluation criteria, the model's predictive power is considered strong. The Stone-Geisser value

from Q^2SDI is 0.178, falling within the range of (0.02-0.35). Following the evaluation criteria of Henseler and Chin (2010), the model's predictive ability is considered moderate. Additionally, the effect size (f^2) of the factors influencing students' intention to drop out is evaluated as weak. According to, Hair et al. (2019), the influence of factors with f^2 values is all < 0.02.

The results of the hypothesis testing indicate that the lack of university commitment positively impacts students' intention to drop out (H1: B = 0.268; p = 0.000 < 0.01); thus, H1 is accepted. Next, degree and course commitment negatively impact students' intention to drop out (H2: B = -0.1, p = 0.006 < 0.01); thus, H2 is accepted. Similarly, ineffective time management positively impacts students' intention to drop out (H3: B = 0.172, p-value = 0.000 < 0.01). Thus, H3 is accepted.

However, the hypotheses H4 and H5 are not supported in this study (B = -0.064; p-value > 10%; B = -0.014 > 10%). Additionally, the curriculum design negatively impacts students' intention to drop out, so H6 is accepted (B = -0.088, p-value = 0.079 < 10%). Moreover, the positive instructor feedback does not impact students' intention to drop out, so H7 is rejected. Furthermore, ineffective adaptation to the learning environment and low classroom participation all have a positive impact on a student's intention to drop out; thus, H8 and H9 are supported (B = 0.116; p-value = 0.001 < 1%; B = 0.123; p-value = 0.001 < 0.001). Hypotheses H10, H11, and H12 are not supported in this study. Lastly, personal circumstances positively impact a student's intention to drop out; thus, H13 is accepted (B = 0.09; p-value = 0.008 < 1%).

Table 7

Differences in dropout intentions by gender, location, and type of university

Differences between students' dropout intentions by gender							
	Original (Male)	Original (Female)	Original difference	Permutation mean difference	2.50%	97.50%	Permutation P-value
DCC -> SDI	-0.096	-0.129	0.032	0.002	-0.136	0.151	0.666
PC -> SDI	0.116	0.053	0.064	-0.002	-0.14	0.136	0.351
UF -> SDI	-0.03	-0.001	-0.029	0.006	-0.162	0.163	0.739
IS -> SDI	0.095	0.137	-0.043	0.002	-0.146	0.138	0.57
IALE -> SDI	-0.063	0.03	-0.093	0.000	-0.146	0.156	0.226
SAI -> SDI	0.13	0.117	0.013	0.004	-0.136	0.139	0.837
PIF -> SDI	0.044	-0.048	0.093	-0.001	-0.166	0.166	0.27
LUC -> SDI	0.253	0.299	-0.046	0.001	-0.145	0.151	0.549
LCP -> SDI	-0.001	-0.131	0.13	-0.002	-0.181	0.185	0.178
ITM -> SDI	0.184	0.13	0.054	0.000	-0.135	0.126	0.426
CD -> SDI	-0.149	-0.019	-0.13	-0.002	-0.212	0.203	0.215
ASA -> SDI	0.017	-0.037	0.054	0.000	-0.161	0.157	0.482
CSE -> SDI	-0.015	0.092	-0.107	-0.005	-0.167	0.169	0.195

Difference between students' dropout intentions by area							
	Original (Suburban)	Original (Urban)	Original difference	Permutation mean difference	2.50%	97.50%	Permutation p-value
DCC -> SDI	-0.051	-0.136	0.085	-0.002	-0.157	0.148	0.267
PC -> SDI	0.13	0.056	0.074	0.003	-0.133	0.144	0.301
UF -> SDI	0	-0.009	0.009	0.000	-0.179	0.183	0.928
IS -> SDI	0.171	0.109	0.062	0.000	-0.15	0.146	0.399
IALE -> SDI	-0.077	0.016	-0.092	-0.004	-0.162	0.15	0.259
SAI -> SDI	0.149	0.083	0.066	0.002	-0.153	0.151	0.383
PIF -> SDI	0.036	-0.035	0.071	0.000	-0.173	0.187	0.443
LUC -> SDI	0.363	0.235	0.128	0.002	-0.156	0.151	0.118
LCP -> SDI	0.058	-0.131	0.189	0.010	-0.2	0.211	0.073
ITM -> SDI	0.115	0.199	-0.084	-0.002	-0.142	0.129	0.256
CD -> SDI	-0.089	-0.065	-0.024	0.001	-0.204	0.218	0.835
ASA -> SDI	-0.023	0.009	-0.033	-0.005	-0.182	0.186	0.686
CSE -> SDI	-0.051	0.059	-0.11	-0.003	-0.171	0.165	0.205

Difference between students' dropout intentions by type of university							
	Original (Public university)	Original (Private university)	Original difference	Permutation mean difference	2.50%	97.50%	Permutation p-value
DCC -> SDI	-0.068	-0.142	0.073	-0.003	-0.151	0.151	0.359
PC -> SDI	0.105	0.059	0.045	0.000	-0.135	0.133	0.481
UF -> SDI	0.037	-0.061	0.098	0.008	-0.168	0.171	0.269
IS -> SDI	0.103	0.131	-0.028	-0.005	-0.157	0.129	0.692
IALE -> SDI	-0.063	0.039	-0.102	0.003	-0.15	0.150	0.207
SAI -> SDI	0.128	0.127	0.001	-0.003	-0.149	0.139	0.993
PIF -> SDI	-0.016	-0.009	-0.007	-0.002	-0.166	0.159	0.930
LUC -> SDI	0.262	0.29	-0.029	0.000	-0.154	0.159	0.709
LCP -> SDI	-0.088	-0.068	-0.02	-0.001	-0.196	0.189	0.843
ITM -> SDI	0.15	0.196	-0.046	0.003	-0.131	0.128	0.498
CD -> SDI	-0.119	-0.045	-0.075	-0.004	-0.199	0.194	0.474
ASA -> SDI	-0.053	0.126	-0.179	-0.002	-0.166	0.154	0.023
CSE -> SDI	0.019	0.007	0.012	0.000	-0.17	0.173	0.895

(Source: own author)

Table 7 presents the results of a multigroup analysis examining the differences in students' intention to drop out of school based on three variables: gender (Male, Female), location of activity (Urban, Suburban), and type of university (Public, Private). The results of the statistical tests indicate that the p-values are all greater than 0.05, suggesting that there is no significant difference in students' intention to drop out of school based on gender, location of activity, or type of university, except for ASA - SDI, the access to support from academic advisors (ASA) has a differential impact on students' dropout intentions based on the type of university ($p = 0.023 < 0.05$).

Discussion

The research findings indicate a higher intention to drop out among students who need more commitment to the institution, particularly in Ho Chi Minh City. These findings are consistent with previous studies such as Willcoxson (2010), Bean (1980). Willcoxson (2010) identified that students are likelier to leave university when they lack organizational commitment. Bean (1980) found that students who lack commitment to the institution tend to withdraw from the learning process.

The commitment to credentials and courses inversely impacts students' intention to drop out. Previous studies such as Yorke and Longden (2008), Tinto (2012) have shown that strong commitment to academic qualifications and courses is associated with stability and persistence in students' learning, reducing the likelihood of dropouts.

In addition, ineffective time management positively impacts students' intention to drop out in Ho Chi Minh City. The research findings are consistent with previous studies such as Nieudwoudt and Pedler (2021), Willcoxson (2010). Ineffective time management leads to student discouragement and the formation of dropout intentions (Nieudwoudt and Pedler, 2021). Students who are unable to balance their personal time and study time are more likely to develop intentions to drop out (Willcoxson, 2010).

The design of the course program has an inverse impact on students' intention to drop out. The research findings align with previous studies as well. Rovai and Jordan (2004) demonstrated that flexibility in the curriculum can increase student commitment and reduce dropout intentions. Willcoxson (2010) stated that carefully designed and logical courses can be highly effective in education and contribute to reducing students' intention to drop out.

Low classroom participation by students has a positive impact on their intention to drop out. Some previous studies have also shown that students who frequently skip classes and do not participate in classroom activities have a positive relationship with dropout intentions (Willcoxson, 2010). Kuh et al. (2008) argued that low-engagement students have poorer academic outcomes and higher intentions to drop out. Students with low classroom participation need more determination to complete the course (Feldman, 1994). Lastly, personal circumstances positively impact students' intention to drop out in Ho Chi Minh City, which is consistent with previous research. Personal circumstances influence students'

decisions to drop out (Bean, 1980; Willcoxson, 2010).

The remaining factors, such as instructors' teaching skills and attitude, instructor support, instructor feedback, facilities, socio-cultural environment, and access to academic advisors, do not impact students' intention to drop out. These research findings contradict previous studies (Hausmann et al., 2007; Kuh et al., 2007; Nieudwoudt and Pedler, 2021; Willcoxson, 2010). When interviewing a group of students in various institutions, they expressed the belief that instructors' teaching skills and attitude do not influence their intention to drop out. According to the interviewed student group, effective instruction requires instructors to have practical experience, expertise, and in-depth knowledge. Students are concerned with teaching methods and the enthusiasm and dedication of instructors. Instructor support helps students effectively address difficulties during the learning process. However, access to and support from instructors is just one aspect, and if timely support from instructors is not received, students can seek assistance from friends to resolve their issues. Whether students receive access to and support from instructors does not impact their intention to drop out. The research results indicate that factors such as timely feedback, facilities, socio-cultural environment, and access to academic advisors positively but statistically insignificantly influence students' intention to drop out. The research findings may not be suitable for the actual situation in Vietnam and cannot be considered as factors affecting students' intention to drop out.

Conclusion

Based on the practical context in Vietnam regarding students' dropout rate and considering the research by Willcoxson (2010), the study adjusted and identified factors influencing students' intention to drop out in Ho Chi Minh City. The influencing factors were explored by surveying 804 students from public and private universities in suburban and urban areas. These factors include: 1) Lack of commitment to the institution, 2) Degree/course commitment, 3) Time management, 4) Course design, 5) Students' ineffective adaptation to the learning environment, 6) Limited classroom participation, and 7) Personal circumstances. Additionally, the study found that the following factors did not impact students' intention to drop out in Ho Chi Minh City: Teaching skills and attitude of instructors, instructor support, instructor feedback, facilities, socio-cultural environment, and access to academic advisors. Based on the findings, the research made two main contributions.

In terms of theoretical aspects, the research has identified factors that influence students' intention to drop out in Vietnam, specifically in Ho Chi Minh City, where previous studies were scarce. These factors align with the practical situation for Ho Chi Minh City students. The study provides a comprehensive understanding of the factors influencing students' intention to drop out. This helps researchers and educational experts better understand the factors that may lead to student disengagement or loss of interest in learning. Factors such as lack of commitment to the institution, degree/course commitment, time management, course design, ineffective adaptation to the learning environment, and personal circumstances have been identified to assess students' intention to drop out. This can assist educational managers and instructors develop appropriate support measures and interventions to maintain and enhance students' engagement and academic success.

In practical terms, the research findings can be used to develop programs and educational policies to reduce the student dropout rate. Universities and instructors can implement measures such as enhancing student commitment, creating conducive learning environments, improving time management, and offering better-designed courses to enhance student engagement and interest in learning. The specific results from the study can also be used to propose individual support measures for students. This may involve counseling and personal support to help students overcome personal and familial difficulties caused by their circumstances. The research also highlights that factor such as teaching skills and attitude of instructors, instructor support, and academic advising are not decisive factors in students' intention to drop out in Ho Chi Minh City. This can help universities focus on other aspects of the learning experience to create a positive learning environment and better support students.

The study is limited to the research scope within the urban and suburban areas of Ho Chi Minh City. Therefore, expanding the research scope to include universities in other regions of Vietnam may be necessary to gain a more comprehensive understanding of the issue. Additionally, the study needs to address the financial factors and cost of education. Surveying the impact of financial factors and the cost of education could be an essential part of understanding students' intention to drop out.

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Conflict of interests
The authors declare no conflict of interest.

Author Contributions

Conceptualization, M.C.B, N.T.T.N and P.H.B.N; methodology, T.N.G.; software, T.N.G.; formal analysis, T.N.G. and N.N.H; writing—original draft preparation, T.N.G. and N.N.H.; writing—review and editing, T.N.G. and N.N.H. All authors have read and agreed to the published version of the manuscript.

References

Baalmann, T., Brömmelhaus, A., Hülsemann, J., Feldhaus, M., & Speck, K. (2022). The Impact of Parents, Intimate Relationships, and Friends on Students' Dropout Intentions. *Journal of College Student Retention: Research, Theory & Practice,* 15210251221133374. https://doi.org/10.1177/15210251221133374

Bakker, E. J. M., Roelofs, P. D. D. M., Kox, J. H. A. M., Miedema, H. S., Francke, A. L., van der Beek, A. J., & Boot, C. R. L. (2021). Psychosocial work characteristics associated with distress and intention to leave nursing education among students; A one-year follow-up study. *Nurse Education Today,* 101, 104853. https://doi.org/10.1016/j.nedt.2021.104853

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Bean, J. P. (1980). Dropouts and turnover: The synthesis and test of a causal model of student attrition. *Research in Higher Education, 12*(2), 155-187. https://doi.org/10.1007/BF00976194

Bransford, J. (2000). *How People Learn: Brain, Mind, Experience*, and School: Expanded Edition (2000). Retrieved from https://nap.nationalacademies.org/catalog/9853/how-people-learn-brain-mind-experience-and-school-expanded-edition

Burke, P. J., Bennett, A., Bunn, M., Stevenson, J., & Clegg, S. (2017). *It's about time: Working towards more equitable understandings of the impact of time for students in higher education*. Retrieved from https://www.ncsehe.edu.au/publications/its-about-time-working-towards-more-equitable-understandings-of-the-impact-of-time-for-students-in-higher-education/

Cabrera, A. F., Deil-Amen, R., Prabhu, R., Terenzini, P. T., Lee, C., & Franklin, J. R. E. (2006). Increasing the College Preparedness of At-Risk Students. *Journal of Latinos and Education, 5*(2), 79-97. https://doi.org/10.1207/s1532771xjle0502_2

Case, S. (2007). Reconfiguring and realigning the assessment feedback processes for an undergraduate criminology degree. *Assessment & Evaluation in Higher Education, 32*(3), 285-299. https://doi.org/10.1080/02602930600896548

Chi, D. L., Randall, C. L., & Hill, C. M. (2021). Dental trainees' mental health and intention to leave their programs during the COVID-19 pandemic. *The Journal of the American Dental Association, 152*(7), 526-534. https://doi.org/10.1016/j.adaj.2021.02.012

Clemes, M. D., Gan, C. E. C., & Kao, T.-H. (2008). University Student Satisfaction: An Empirical Analysis. *Journal of Marketing for Higher Education, 17*(2), 292-325. https://doi.org/10.1080/08841240801912831

Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*. In. https://doi.org/10.1016/C2013-0-10517-X

Crosling, G., Thomas, L., & Heagney, M. (2009). Introduction: Student success and retention. *Improving student retention in higher education,* 19-32. https://www.researchgate.net/publication/244990185_Crosling_G_Heagney_M_and_Thomas_L_2009_Improving_Student_Retention_in_Higher_Education_Improving_teaching_and_learning_In_Australian_Universities'_Review_Vol51_No_2

Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual review of psychology, 53*(1), 109-132. https://doi.org/10.1146/annurev.psych.53.100901.135153

Eisenberg, D., Gollust, S. E., Golberstein, E., & Hefner, J. L. (2007). Prevalence and correlates of depression, anxiety, and suicidality among university students. *American journal of orthopsychiatry, 77*(4), 534-542. https://doi.org/10.1037/0002-9432.77.4.534

Farr-Wharton, B., Charles, M. B., Keast, R., Woolcott, G., & Chamberlain, D. (2018). Why lecturers still matter: the impact of lecturer-student exchange on student engagement and intention to leave university prematurely. *Higher Education, 75*, 167-185. https://doi.org/10.1007/s10734-017-0190-5

Feldman, K. A. (1994). [What Matters in College? Four Critical Years Revisited., Alexander W. Astin]. *The Journal of Higher Education, 65*(5), 615-622. https://doi.org/10.2307/2943781

Fitzpatrick, K. M., & Yoels, W. C. (1992). Policy, School Structure, and Sociodemographic Effects on Statewide High School Dropout Rates. *Sociology of Education, 65*(1), 76-93. https://doi.org/10.2307/2112694

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research, 18*(1), 39-50. https://doi.org/10.1177/002224378101800104

Glogowska, M., Young, P., & Lockyer, L. (2007). Should I go or should I stay?: A study of factors influencing students' decisions on early leaving. *Active Learning in Higher Education, 8*(1), 63-77. https://doi.org/10.1177/1469787407074115

Gury, N. (2011). Dropping out of higher education in France: a micro-economic approach using survival analysis. *Education Economics, 19*(1), 51-64. https://doi.org/10.1080/09645290902796357

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European*

Business Review, 31(1), 2-24. https://doi.org/10.1108/EBR-11-2018-0203
Hair Jr, J. F., Black, W. C., Babin, B. J., & Anderson, R. (2009). *Multivariate Data Analysis.* In. Retrieved from https://www.drnishikantjha.com/papersCollection/Multivariate%20Data%20Analysis.pdf
Hausmann, L. R. M., Schofield, J. W., & Woods, R. L. (2007). Sense of Belonging as a Predictor of Intentions to Persist Among African American and White First-Year College Students. *Research in Higher Education, 48*(7), 803-839. https://doi.org/10.1007/s11162-007-9052-9
Henseler, J., & Chin, W. W. (2010). A Comparison of Approaches for the Analysis of Interaction Effects Between Latent Variables Using Partial Least Squares Path Modeling. *Structural Equation Modeling: A Multidisciplinary Journal, 17*(1), 82-109. https://doi.org/10.1080/10705510903439003
Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). *The use of partial least squares path modeling in international marketing.* In Advances in International Marketing, Vol. 20. R. R. Sinkovics & P. N. Ghauri (Eds.), New Challenges to International Marketing (pp. 277-319). https://doi.org/10.1108/S1474-7979(2009)0000020014
Kahu, E. R. (2013). Framing student engagement in higher education. *Studies in Higher Education, 38*(5), 758-773. https://doi.org/10.1080/03075079.2011.598505
Kember, D., Biggs, J., & Leung, D. Y. P. (2004). Examining the multidimensionality of approaches to learning through the development of a revised version of the Learning Process Questionnaire. 74(2), 261-279. https://doi.org/10.1348/000709904773839879
Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the Effects of Student Engagement on First-Year College Grades and Persistence. *The Journal of Higher Education, 79*(5), 540-563. https://doi.org/10.1080/00221546.2008.11772116
Kuh, G. D., Kinzie, J., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2007). Piecing together the student success puzzle: research, propositions, and recommendations. In Vol. 32. https://eric.ed.gov/?id=EJ791634
Leveson, L., McNeil, N., & Joiner, T. (2013). Persist or withdraw: the importance of external factors in students' departure intentions. *Higher Education Research & Development, 32*(6), 932-945. https://doi.org/10.1080/07294360.2013.806442
Longman, D. G., & Atkinson, R. H. J. P., MN: West Publishing Co. (1988). College Learning and Study Skills. In St. Paul, MN: West Publishing Co. https://archive.org/details/collegelearnings0000long
Lundquist, C., Spalding, R. J., & Landrum, R. E. (2002). College student's thoughts about leaving the university: The impact of faculty attitudes and behaviors. J*ournal of College Student Retention: Research, Theory & Practice, 4*(2), 123-133. https://doi.org/10.2190/FLAL-7AM5-Q6K3-L40P
Macan, T. H., & Shahani, C. (1990). College Students' Time Management: Correlations With Academic Performance and Stress. J*ournal of Educational Psychology, 82*(4), 760-768. https://psycnet.apa.org/doi/10.1037/0022-0663.82.4.760
MacKie, S. E. (2001). Jumping the Hurdles – Undergraduate Student Withdrawal Behaviour. *Innovations in Education and Teaching International, 38*(3), 265-276. https://doi.org/10.1080/14703290110056371
Matteau, L., Toupin, I., Ouellet, N., Beaulieu, M., Truchon, M., & Gilbert-Ouimet, M. (2023). Nursing students' academic conditions, psychological distress, and intention to leave school: A cross-sectional study. *Nurse Education Today, 129*, 105877. https://doi.org/10.1016/j.nedt.2023.105877
Mtshweni, B. V. (2021). Adjustment and socioeconomic status: how do these factors influence the intention to dropout of university? *South African Journal of Psychology, 52*(2), 262-274. https://doi.org/10.1177/008124632110591
Natoli, R., Jackling, B., & Siddique, S. (2015). Insights into departure intention: A qualitative case study. Education Research Perspectives, 42, 459-490. https://www.proquest.com/scholarly-journals/insights-into-departure-intention-qualitative/docview/1765642305/se-2
Nieuwoudt, J. E., & Pedler, M. L. (2021). Student retention in higher education: Why students choose to remain at university. *Journal of College Student Retention: Research, Theory & Practice, 25*(2), 326-349. https://doi.org/10.1177/1521025120985228
Nunnally, J. C. (1978). *Psychometric Theory: 2d Ed*: McGraw-Hill.
Omar, N. A., Nazri, M. A., Abu, N. K., & Omar, Z. (2009). Parents' perceived service quality, satisfaction and trust of a childcare centre: Implication on loyalty. *International Review of Business Research Papers, 5*(5), 299-314. https://www.researchgate.net/publication/228435945_Parents_Perceived_Service_Quality_Satisfaction_and_Trust_of_a_Childcare_Centre_Implication_on_Loyalty
Orion., H. C., Forosuelo, E. J. D., & Cavalida, J. M. (2014). Factors affecting students' decision to drop out of school. *Education Research International, 2*(1), 1-16. https://doi.org/10.1155/2023/7704142
Pascarella, E. T., & Terenzini, P. T. (1991). How college affects students: Findings and insights from twenty years of research, *Academe 78*(4), 44–47. https://doi.org/10.2307/40250363
Lewis, L. S. (1992). [Review of How College Affects Students: Findings and Insights from Twenty Years of Research, by E. T. Pascarella & P. T. Terenzini]. *Academe, 78*(4), 44–47. https://doi.org/10.2307/40250363
Peltz, J. S., Bodenlos, J. S., Kingery, J. N., & Rogge, R. D. (2021). The role of financial strain in college students' work hours, sleep, and mental health. *Journal of American College Health, 69*(6), 577-584. https://doi.org/10.1080/07448481.2019.1705306
Pijl, S. J., Frostad, P., & Mjaavatn, P. E. (2014). Students with special educational needs in secondary education: are they intending to learn or to leave? *European Journal of Special Needs Education, 29*(1), 16-28. https://doi.org/10.1080/08856257.2013.830442
Reynolds, G. L. (2007). The impact of facilities on recruitment and retention of students. *New Directions for Institutional Research, 2007*(135), 63-80. https://doi.org/10.1002/ir.223
Rovai, A. P., & Jordan, H. M. (2004). Blended Learning and Sense of Community: A comparative analysis with traditional and fully online graduate courses. *International Review of Research in Open and Distributed Learning, 5*(2), 1-13. https://doi.org/10.19173/irrodl.v5i2.192
Schnettler, T., Bobe, J., Scheunemann, A., Fries, S., & Grunschel, C. (2020). Is it still worth it? Applying expectancy-value theory to investigate the intraindividual motivational process of forming intentions to drop out from university. Motivation and Emotion, 44, 491-507. https://doi.org/10.1007/s11031-020-09822-w

Schwab, S. (2018). Attitudes Towards Inclusive Schooling: A study on Students', Teachers' and Parents' attitudes. I*nternational Journal of Inclusive Education 27*(2), 221-240. https://doi.org/10.1080/13603116.2020.1837267
Sheldon, S. B., & Epstein, J. L. (2004). Getting Students to School: Using Family and Community Involvement to Reduce Chronic Absenteeism. *The School Community Journal, 14*(2), 39-56. https://doi.org/10.26530/OAPEN_389225
Shiau, W.-L., Sarstedt, M., & Hair, J. F. (2019). Internet research using partial least squares structural equation modeling (PLS-SEM). *Internet Research, 29*(3), 398-406. https://doi.org/10.1108/IntR-10-2018-0447
Swick, K. J. (1987). *Student Stress: A Classroom Management System*. Analysis and Action Series. In. https://eric.ed.gov/?id=ED307514
Tinto, V. (2012). *Leaving college: Rethinking the causes and cures of student attrition*. In. https://eric.ed.gov/?id=ED371658
Tinto, V., & Pusser, B. (2006). Moving from theory to action: Building a model of institutional action for student success. *National Postsecondary Education Cooperative, 1*(51), 89-125. https://www.researchgate.net/publication/251378009_Moving_From_Theory_to_Action_Building_a_Model_of_Institutional_Action_for_Student_Success
Willcoxson, L. (2010). Factors affecting intention to leave in the first, second and third year of university studies: a semester-by-semester investigation. *Higher Education Research & Development, 29*(6), 623-639. https://doi.org/10.1080/07294360.2010.501071
Yorke, M., & Longden, B. (2008). *The first-year experience of higher education in the UK*. https://www.researchgate.net/publication/225083945_The_First-Year_Experience_of_Higher_Education_in_the_UK_-_Final_Report

Appendix

Items
Student's dropout intentions (SDI)
SDI1: I often think about dropping out of school.
SDI2: I am actively seeking job opportunities and alternative learning options, so I may leave the university.
SDI3: There is a possibility that I will drop out of university within the next year.
SDI4: I am looking for suitable timing to drop out of school.
Lack of university commitment (LUC)
LUC1: I am studying at this university as a steppingstone to transfer to another university.
LUC2: The reputation of my university is very important for job applications.
LUC3: I am attending this university because I did not meet the requirements of other preferences.
LUC4: I am satisfied with the university I am currently studying at.
LUC5: I am satisfied with my personal experience at the university.
Degree and course commitment (DCC)
DCC1: I have obvious reasons for studying at this university.
DCC2: I can enroll in the course/program that I have chosen.
DCC3: I know what profession I want to pursue in the future.
Ineffective time management (ITM)
ITM1: It is difficult to balance personal time and study time at the university.
ITM2: I struggle with managing study time effectively.
ITM3: It is challenging to balance family responsibilities and university studies.
ITM4: It is challenging to balance work and university studies.
Skills and attitudes of instructors (SAI)
SAI1: The professors are enthusiastic and dedicated in their teaching.
SAI2: The professors are skilled at explaining things.
SAI3: The professors always strive to make the classes interesting.

SAI4: The faculty team clearly communicates their expectations from the students right from the beginning.
SAI5: The professors always create a sense of closeness with the students.
SAI6: I have encountered difficulties in understanding the accent of some instructors while listening.
SAI7: I have had some unpleasant experiences with certain instructors.
Instructor support (IS)
IS1: I have received support from the instructors
IS2: Instructors are sensitive to the individual needs of students
IS3: Instructors often strive to meet my needs.
IS4: The faculty team is always available when I need them.
IS5: My professors genuinely make an effort to understand the difficulties students face in their learning process.
Curriculum design (CD)
CD1: My professors incorporate real-life examples into their teaching curriculum.
CD2: What I am learning at the university has been researched and proven.
CD3: I am satisfied with the job experiential opportunities introduced by the university.
Positive instructor feedback (PIF)
PIF1: I received helpful feedback on the assessment tasks.
PIF2: I received prompt feedback on the tasks.
Ineffective adaptation to learning environment (IALE)
IALE1: I have the potential to succeed after completing your university education.
IALE2: My study program is too demanding.
IALE3: I believe that my essay writing skills are sufficient for university-level study.
IALE4: I find it difficult to understand various study materials.
IALE5: I struggle to adapt to the teaching methods at the university.
IALE6: I need good analytical skills in order to understand the content.
IALE7: I need a good memory in order to study effectively.
Low classroom participation (LCP)
LCP1: My classes are engaging and interesting.
LCP2: I enjoy the intellectual challenges that come with what I am studying.
LCP3: I appreciate the opportunity to interact with students from diverse cultural backgrounds at the university.
LCP4: When working in groups, I enjoy collaborating with peers from different cultural backgrounds.
LCP5: I actively participate in class discussions.
LCP6: I make it a habit to attend class and prepare the required materials in advance.
LCP7: I frequently skip classes.
LCP8: I don't attend classes because the study materials are available on the website.
LCP9: I often seek advice from my instructors.
LCP10: I am diligent in my studies at school.
University facilities (UF)
UF1: The classrooms provide a high-quality learning environment.

UF2: The library is spacious, well-ventilated, and offers a diverse range of study materials.
UF3: The information technology system meets my usage needs.
UF4: The classrooms are very spacious.
UF5: The class schedule is convenient for me.
Cultural and social environment (CSE)
CSE1: The facilities of the university meet my social needs.
CSE2: The facilities of the university are suitable for my religious/cultural needs.
CSE3: I am sensitive to students from different cultural backgrounds.
CSE4: I appreciate the physical facilities and environment of the university campus.
CSE5: I feel a sense of belonging to the university community.
CSE6: I sometimes feel lonely in the university.
CSE7: I find it easy to commute to the university.
Access to support from academic advisors (ASA)
ASA1: I receive good advice from the university regarding career choices.
ASA2: I receive good advice from a career counselor in choosing a profession for myself.
ASA3: I receive good advice from the university regarding career choices.
ASA4: I easily receive assistance when needed from the management team.
ASA5: The management team is always ready to assist when I need them.
ASA6: The staff at the university are often sensitive to the personal needs of students.
ASA7: Having an advisor at the university is very helpful.
Personal circumstances (PC)
PC1: I worry about my mental health.
PC2: I worry about my physical health.
PC3: I often feel homesick.
PC4: I worry about the accumulating debt while studying at university.
PC5: I have financial issues.