

Student retention in higher education: the influences of organizational identification and institution reputation on student satisfaction and behaviors

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Abstract

Purpose – Universities worldwide struggle to retain students, so it is important to identify the factors that may improve retention levels. The research investigates key factors that have an impact upon student satisfaction and students' staying and supportive intentions. Of particular interest is the extent to which organizational identification and institution reputation influence student satisfaction and behaviors.

Design/methodology/approach – A conceptual model was developed and tested using covariance-based structural equation modeling. The data were obtained from a survey of 419 first year full-time undergraduate students in the United Arab Emirates.

Findings – Perceived quality of teaching, organizational identification and institution reputation were found to be significant predictors of student satisfaction in our model, with student satisfaction having both direct and mediating influences on students' staying and supportive intentions.

Originality/value – The research highlights that although perceived quality of teaching has an influence on student satisfaction, the influences of organizational identification and institution reputation are stronger.

Practical implications – The findings suggest that universities should undertake activities that strengthen student-university identification and institution reputation, as these may strongly influence students' attitudes and behaviors. The paper discusses strategies that institutions may implement to develop and maintain organizational identification among students.

Keywords Student retention, Student satisfaction, Behavioral intentions, Teaching quality, Support services, Social identification, Organizational identification, Reputation

Paper type Research paper

Introduction

Nowadays, most higher education institutions globally are committed to providing a 'world-class' educational experience for students. Institutions aim to meet the expectations of their students and service quality constitutes an essential parameter of excellence, while concepts such as institution reputation, student satisfaction, and student retention have become matters of strategic concern in both public and private institutions. When students are not satisfied with their experience at university, they

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are more likely to withdraw from their study program. An international study conducted by the Organisation for Economic Cooperation and Development (OECD) found that 31% of higher education students failed to complete their course (OECD, 2008). Student dropout is particularly high among first year students. In 2019-2020, 26% of first year students in the United States (US) failed to return for their second year (NSCRC, 2021).

The purpose of this study is to improve our understanding of the factors that influence students' staying and supportive intentions. It is hypothesized that satisfaction is a prerequisite for students' staying and supportive intentions, so this research assesses the influences of possible antecedents of satisfaction. As the majority of student dropouts from higher education occur in the first year (Barefoot, 2004; Paideya and Bengesai, 2021), this research focuses on the attitudes, perceptions and experiences of first year undergraduate students at federal universities in the UAE. This research fills a literature gap because no previous study has simultaneously considered the influences of perceived quality of teaching, student life and support, social identification, organizational identification, and institution reputation on first year students' satisfaction and behavioral intentions.

To our knowledge, no existing research included both organizational identification and institution reputation in the same model, as independent variable predictors of students' staying and supportive intentions, with satisfaction as a mediating variable. Furthermore, where organizational identification and institution reputation have been considered in previous research, they have often placed in the models as mediating, moderating, or dependent variables, e.g., Jones and Volpe (2011), Kim *et al.* (2010); Myers *et al.* (2016); and Saleem *et al.* (2017), rather than as independent variables.

Thus, the study's two central research questions are:

- (1) What are the factors that influence student retention in degree programs?
- (2) What are the factors that influence students' supportive intentions?

Based on the literature review undertaken, five antecedents of student satisfaction are proposed: Perceived Quality of Teaching (PQT), Student Life and Support (SLS), Social Identification (SI), Organizational Identification (OI), and Institution Reputation (REP). Marginson (2006) claims that many students are more aware of and concerned about institution reputation than actual teaching and service quality. To test this assertion, of particular interest in this study is the extent to which institution reputation, and implicitly organizational identification, influence student satisfaction, and students' staying and supportive intentions, in comparison to perceived quality of teaching and student life and support services.

The key contributions of the research are the findings that organizational identification is the strongest predictor of student satisfaction; institution reputation is the second strongest predictor of student satisfaction; and student satisfaction has both direct and mediating influences on students' staying and supportive intentions. These findings suggest that organizational identification and institution reputation should be included as predictor variables in future models of student satisfaction, and that university marketers should develop and implement strategies that strengthen student-university identification and institution reputation.

In the following four sections, a brief overview of the literature will be provided on the retention of students in higher education; student needs and expectations; university reputation; and student

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satisfaction. Then, the conceptual model and hypotheses are presented before explaining the methodology and presenting the results, which are the product of covariance-based structural equation modelling (SEM). Finally, the discussion and conclusion section summarizes and explains the main contributions and implications of the research, and examples are provided on how institutions may develop and maintain organizational identification among students.

Literature review

Retention of students in higher education

Much of the conceptual work on student retention stems from Tinto's (1975) model of student-university interactions. Since then, other researchers have offered retention prediction models and policies or intervention programs to maximize student retention (Eather *et al.*, 2022). Competing models of student retention now consider academic, individual, and situational factors. For example, Carroll *et al.* (2009) claim that situational (e.g., health, financial situation, and family commitments), dispositional (e.g. student's confidence and motivation), and institutional (e.g., orientation programs and student support systems) factors explain students' decision to stay or dropout. However, to our knowledge, our specific conceptualization and positioning of independent, mediator, and dependent variables is unique.

Student retention is a key indicator used to measure the performance of higher education institutions (HEIs). Employers and societies depend on students gaining knowledge and skills in higher education, and many institutions depend on the revenues generated by students to fund growth and facilities improvement. Many studies have examined the effects of dropout on students and institutions, as well as the factors leading to dropout, such as academic difficulties and issues related to student life and support (e.g., Ahmad, 2015; Aljohani, 2016; Elsharnouby, 2015; Yusoff *et al.*, 2015). An alternative stream of literature has focused on students' individual characteristics and personal circumstances (Tight, 2020).

Students have diverse reasons for withdrawing from higher education, which may include lack of readiness for participation in higher education; lack of academic attainment; the inability to pay tuition fees and living costs; dissatisfaction with the student experience; and the failure to achieve a sense of belonging at the institution, perhaps resulting from the lack of social and/or organizational identification (Barefoot, 2004). Students typically leave a university for a number of reasons, and not just for a single reason (Nieuwoudt and Pedler, 2021). There is consensus in the literature that there is a strong and positive relationship between student satisfaction and student retention (Annamdevula and Bellamkonda, 2016). Mah (2016) suggests that institutions should tackle student dropout by improving the quality of support services provided to students, which may also contribute to the achievement of higher levels of overall satisfaction with the HEI.

Student needs and expectations

Students enrol in higher education programs to improve their knowledge and skills. Although individual learning depends on co-creation, with students playing an active role in their learning, it is generally accepted that student performance may be maximized when they receive high quality teaching and learning resources. All students expect or hope to receive a high quality academic experience, and this

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may be needed to ensure student retention (Carter and Yeo, 2016). HEIs are assessed by quality assurance agencies on the quality of their teaching, and therefore many institutions are keen to recruit the highest quality teaching staff, who are experts in their fields and who can also help students to achieve their full potential (Biermann *et al.*, 2015). High quality teaching also involves using suitable teaching methods, having suitable and well-equipped classrooms, and making effective use of technology, which may influence both student learning and satisfaction (Munoz-Carril *et al.*, 2021). Students may need out-of-class academic support to achieve their learning goals.

Student impressions of their university can form very quickly, and they may be shaped considerably by the individual's expectations (Crisp *et al.*, 2009). It is important that new students have a positive experience as soon as they arrive at the university. An effective orientation program may be valuable to new students, as it introduces them to the available facilities and resources at the campus and allows them to meet with teachers, advisors, staff, and other students to discuss various aspects of student life, including their study plan. Orientation programs can inspire confidence among new students, as well tackle any challenges and problems that arise. Thereafter, students may need support and encouragement to participate in sports, recreational and extra-curricular activities. Participating in such activities enriches the student's university experience and it may help individuals to expand their social network and to interact better in groups (Sutter and Paulson, 2017). Thus, by participating in university activities both in and out of the classroom, students can form friendships with their peers and develop feelings of social identification, so that they feel comfortable and settled in their new environment.

University reputation

Fombrun *et al.* (2000, p. 243) define reputation as the collective assessment of an organization's ability to provide valued outcomes to a representative group or stakeholders. A university's reputation may play a large role in gaining a competitive advantage in the higher education market, and reputation is commonly one of the indicators used in university rankings. Such rankings influence the institution choice decisions of many students. Students are more likely to identify with reputable institutions that are prestigious and successful (Ahearne *et al.*, 2005), and the identification that develops may influence the individual's attitudes and behaviors. Wilkins (2020) observes that higher education provides students with both use (knowledge, skills) and exchange value (career opportunities). Students studying at institutions with a strong reputation may anticipate the future benefits that the exchange value of their degree will deliver, and this may have a positive impact on their satisfaction. The extant literature suggests that university reputation may boost student satisfaction (e.g., Braunack-Mayer *et al.*, 2020; Elsharnouby, 2015; Wilkins and Huisman, 2015) and organizational identification (Heffernan *et al.*, 2018).

Student satisfaction

Student satisfaction exists when the individual's subjective evaluation of their experiences and outcomes are favorable (Annamdevula and Bellamkonda, 2016). Student satisfaction has been conceptualized in many different ways and many different models are offered in the literature, originating from a variety of fields including marketing, service management, and quality management. Early researchers often

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considered student satisfaction in the context of evaluating service quality, for example, by using or adapting the SERVQUAL model, which is built on the expectancy-disconfirmation paradigm. Over time, researchers added new constructs to models, many of which are specific to higher education. Although there are student satisfaction models that consider social and organizational identification (e.g., Wilkins *et al.*, 2016) and institution reputation (e.g., Hanssen and Solvoll, 2015), existing models tend to position reputation as a mediating or moderating variable rather than as an independent predictor variable, and the existing models do not have satisfaction as a mediating variable, and both staying and supportive intentions as dependent outcome variables.

Nowadays, virtually every HEI is concerned about and measures student satisfaction. Student satisfaction has a strong influence on student retention and word of mouth, and it is considered by most quality assurance agencies and university rankings. Most universities, and also national systems for measuring HEI performance, use annual questionnaires to measure levels of student satisfaction. The results may help drive institutional improvements in teaching and learning, as well as the overall student experience (Spooren *et al.*, 2013), which may lead to staying and supportive behaviors.

Khalifa and Mahmoud (2016) found that there is a strong and direct relationship between an HEI's quality of services and student satisfaction. Satisfied students will enjoy their time at university, have higher levels of attendance, and be more motivated to support and be involved with the institution. Thus, dropout will be lower among satisfied students. Students may act as ambassadors, presenting their universities to others on different occasions, and the more satisfied they are, the more reputational benefits the university will likely receive. Personal recommendations and favorable online reviews may encourage others to enrol at the university. Many studies have confirmed that student satisfaction has positive influences on student attitudes and behaviors (e.g., Ahmad, 2015; Ali *et al.*, 2016; Kunanusorn and Puttawong, 2015; Pinna *et al.*, 2018; Purgailis and Zaksa, 2012).

Hypotheses development and conceptual model

There is a huge body of literature that has explored a diverse range of antecedents and consequences of student satisfaction, but there is generally a consensus among researchers that satisfaction results from a combination of academic and non-academic factors, including the attributes of individuals, such as academic ability, commitment, and personality (DeShields *et al.*, 2005). However, to our knowledge, no previous study has included both organizational identification and institution reputation in the same model, as independent predictor variables of students' staying and supportive intentions, with satisfaction as a mediating variable.

In a study conducted by Douglas *et al.* (2006), students identified the most important aspects of service as the teaching ability of staff, subject expertise of staff, lectures, lecture materials, and tutorials. Hill *et al.* (2003) found that the key determinants of student satisfaction were the quality of lecturers, classroom delivery, lecturer-student relationships, and feedback given during lessons and for assignments. Faculty experience, teaching methodology, and effective use of information technology in lessons have also been found to influence student satisfaction (Annamdevula and Bellamkonda, 2016; Khalifa and Mahmoud, 2016; Wilkins and Balakrishnan, 2013).

Hypothesis 1: Perceived quality of teaching is positively related to student satisfaction.

Pedro *et al.*'s (2018) study on service quality considers student satisfaction in terms of measuring different services at an institution. A student's higher education experience comprises both the academic and non-academic elements. To achieve effective learning, students need access to a library, computer labs, academic support services, and an academic tutor. However, Wilcox *et al.* (2005) argue that to maximize student satisfaction and retention, institutions should place equal emphasis on students' successful integration into the social world of the university as into the academic world. To have a pleasurable and fulfilling student life, individuals may need access to living accommodation, counselling and careers services, shops and catering outlets, leisure and sports facilities, as well as clubs and societies. Various studies have found that student satisfaction is related to various aspects of student life and support (Kim and Bastedo, 2017; Hoyt, 2021; Sutter and Paulson, 2017; Wilcox *et al.*, 2005; Wilkins *et al.*, 2012). Galloway (1998) argues that even the services and support offered by administrative staff can influence students' perceptions of institution quality and satisfaction.

Hypothesis 2: Student life and support is positively related to student satisfaction.

Tajfel and Turner (1979) propose that the social groups to which people belong are an important source of pride and self-esteem. Membership of groups gives an individual a sense of belonging in the social world. Entering higher education from high school can be a traumatic experience for many students, and most individuals are eager to form friendships and feel part of the student group. Various studies have discovered the benefits of social identification, where an individual student feels comfortable with their peers. Social identification typically has a positive influence on both academic performance and student satisfaction (Kang, 2014; Kim *et al.*, 2010; Myers *et al.*, 2016; Wilkins *et al.*, 2016). Individuals who experience difficulties in making compatible friends are less likely to be satisfied with their university experience and more likely to dropout (Wilcox *et al.*, 2005).

Hypothesis 3: Social identification is positively related to student satisfaction.

Individuals often form a psychological attachment to an organization, a phenomenon known as organizational identification (O'Reilley and Chatman, 1986). Ashforth and Mael (1989) suggest that organizational identification may result when an individual perceives that an organization's distinctive and salient characteristics are self-defining, self-referential and enriching to their own social identity. Thus, a student is more likely to identify with their institution if they perceive its identity to be attractive. However, there is no consensus among scholars on whether organizational identification leads to satisfaction or whether satisfaction leads to organizational identification (Abdelmaaboud *et al.*, 2021). Nevertheless, several studies have concluded that organizational identification may have an influence on the fulfilment of student needs and satisfaction (e.g., Abdelmaaboud *et al.*, 2021; Heffernan *et al.*, 2018; Myers *et al.*, 2016; Pinna *et al.*, 2018; Wilkins *et al.*, 2016; Wilkins and Huisman, 2013).

Hypothesis 4: Organizational identification is positively related to student satisfaction.

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Several researchers have declared a link between an institution's reputation and student satisfaction (Braunack-Mayer et al., 2020; Elsharnouby, 2015; Wilkins and Huisman, 2015). Reputation may influence an individual's overall impressions of a university and the quality of its education, and Mai (2005) found that these impressions are related to satisfaction more than other specific service dimensions. Students in high reputation universities often have higher levels of organizational identification, as these individuals may bask in the reflected glory of their institution, i.e., portray the university's successes as their own individual accomplishments (Ahearne et al., 2005), and this may be a source of satisfaction for students. As well as the admiration gained for studying at a high reputation university, students may be confident that studying in a high reputation university will enhance their future career prospects.

Hypothesis 5: Reputation is positively related to student satisfaction.

The relationship between satisfaction and staying may be strongest when the institution is perceived by the student to provide all that they need to achieve their educational goals and experience expectations. Numerous studies have suggested that satisfaction positively influences a student's decision to stay and complete their study program (e.g., Annamdevula and Bellamkonda, 2016; Hwang and Choi, 2019; Watjatrakul, 2014). A study by Clemes *et al.* (2008) found that student satisfaction explains 32.6% of the variation in future attendance.

Hypothesis 6: Student Satisfaction is positively related to intention to stay.

Satisfied individuals may support their university after graduating as well as while they are a student at the institution (Henning-Thurau *et al.*, 2001; Mael and Ashforth, 1992; Wilkins *et al.*, 2018). Several researchers have found that satisfaction may influence an individual's supportive intentions, such as advising and interviewing potential students in global locations; making donations as an alumnus/alumna; participating in institution events, e.g., volunteering as a guide on open days; engaging in positive word of mouth, both among acquaintances and online; or simply wearing clothing bearing the university name (Kang, 2014; Sung and Yang, 2009; Wilkins *et al.*, 2018). In research that involved 2,763 students, Stephenson and Yerger (2015) found that satisfaction with student affairs and satisfaction with campus resources are both related to the individual's promotional behaviors. Additionally, Clemes *et al.* (2008) found that satisfaction explains 41.1% of the variation in students' intention to recommend the institution.

Hypothesis 7: Student Satisfaction is positively related to supportive intentions.

Although we hypothesize that perceived quality of teaching, student life and support, social identification, organizational identification and reputation each have a direct influence on student satisfaction, we do not know whether these predictor variables can also directly affect students' staying and supportive intentions, or what the role of student satisfaction may have as a mediating influence. Some studies have indicated that satisfaction may play a mediating role in the relationship between service quality and loyalty (e.g., Annamdevula and Bellamkonda, 2016; Caruana, 2002; Hwang and

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Choi, 2019; Olsen, 2002). Indeed, Abdelmaaboud *et al.* (2021) found that satisfaction acts as a mediating construct between students' organizational identification and advocacy intentions.

Hypothesis 8a: Student satisfaction acts a mediating construct between its antecedents and students' staying intentions.

Hypothesis 8b: Student satisfaction acts a mediating construct between its antecedents and students' supportive intentions.

The conceptual model presented in Figure 1 summarizes the relationships investigated in the study.

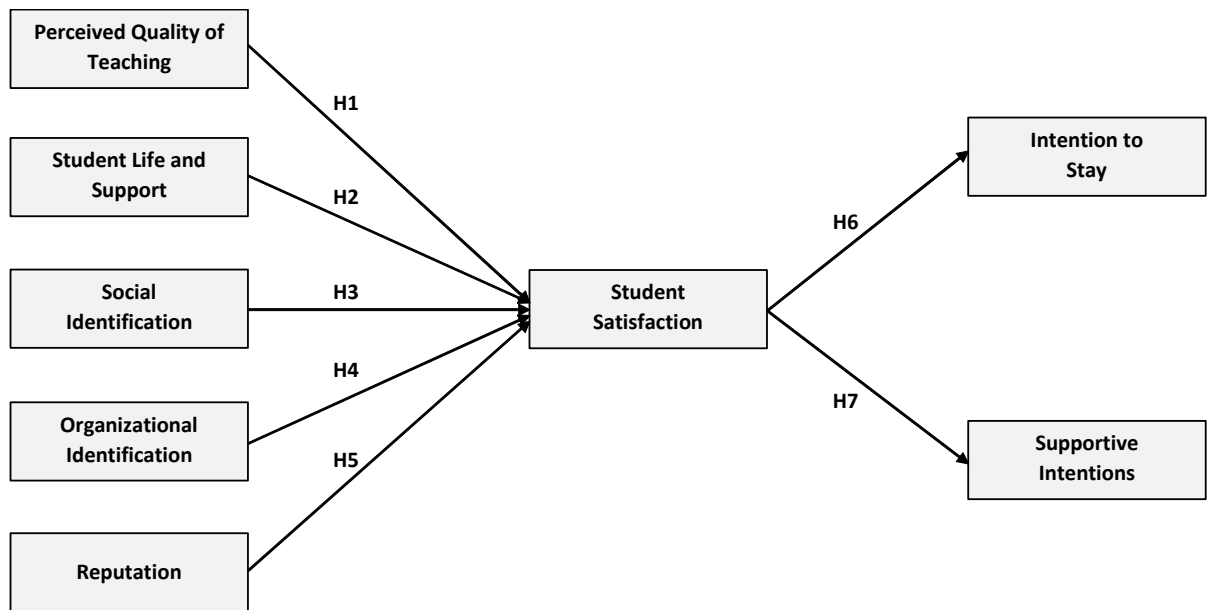


Figure 1. The proposed conceptual model

Methodology

Sample and data collection

The study's data were obtained from 419 self-selected participants who completed hard copy questionnaires that were distributed by one of the researchers during lectures while the class instructor remained present, which represents a 94.5% response rate. The sample consisted of first year full-time undergraduate students who were approximately halfway through their first year. We focused on first year students because the majority of student dropouts from higher education occur in the first year. As with any service encounter, the consumer starts evaluating the service quality as soon as the service delivery begins. Our participants had at least one completed term or semester of service delivery experience. However, institution reputation may influence a student's attitudes and perceptions before they start their study programme, and previous research has indicated that individuals may identify with

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organizations even without formal membership or previous connection or interaction between the individual and the organization (Wilkins and Huisman, 2013). Thus, such research suggests that a student's identification with their university may begin before the individual actually arrives on campus.

The students were enrolled at two federal institutions in the UAE and were following a range of degree majors. One institution is a research intensive university that appears in global ranking lists. The other institution also has a strong reputation in the UAE, but it focuses on vocational and technical education. Independent samples *t*-tests found that there is no significant difference between the two institution's scores for either organizational identification – $t(417) = 1.827, p = .068$ – or institution reputation – $t(417) = 1.603, p = .110$ – so the two sub-samples were treated as one homogeneous group.

Of the 419 respondents, 23% were male, 77% were female, and the vast majority were UAE nationals aged 17-19 years. Our gender split is fairly representative of enrolments at the UAE's federal higher education institutions. For example, at the United Arab Emirates University, the UAE's largest single-campus university, females account for 73.5% of the student population (UAEU, 2022). Male high school graduates enter into mandatory national service, and upon completion of this, many individuals prefer to go directly into employment or to start their own business. Independent samples *t*-tests indicated that there is no statistical difference between males and females for any of the six constructs in our model. Although the federal universities admit international and expatriate students, these account for only a small proportion of the total students, typically less than 10-15%.

The survey questionnaire was divided into eight main sections, and each section contains 3 to 13 items relating to one of the study's eight constructs. Respondents used a seven-point Likert scale for all items, where 1 = strongly disagree and 7 = strongly agree. The questionnaire was pretested with 40 students before the final survey was launched, and no notable issues were identified with the survey instrument.

Measures

Our conceptual model comprises five independent variables (perceived quality of teaching, student life and support, social identification, organizational identification, and institution reputation); two dependent variables (intention to stay and supportive intentions); and one mediator variable (student satisfaction). The literature suggests that each of the independent variables may have a direct impact upon student satisfaction, and that student satisfaction influences students' staying and supportive intentions. All of the scales used were previously validated in the literature. Table 1 provides the sources of scales and examples of the items used. Where necessary, items were adapted to reflect the study context.

Results

Preliminary data analysis

The normality of the data was assessed by examining the skewness and kurtosis of the distributions. All of the observed variables have values in the range of -2 to +2 for skewness and -7 to +7 for kurtosis, which indicates that normality assumptions have been achieved (Byrne, 2010). Then, the data was examined for multicollinearity. The results of the variance inflation factor (VIF) test were below the

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conservative cut-value of 2.5 (Chen, 2012).

Table 1. Sources of scales and examples of items

Construct	Source	No. items	α	Examples of items
Perceived Quality of Teaching	Mao and Oppewal (2010)	3	.75	The teaching staff motivates me to do my best work The teaching staff are extremely good at explaining things The teaching staff work hard to make their subject interesting
Student Life and Support	Wilkins and Balakrishnan (2013)	6	.92	My university/college has lots of clubs and societies for students My university/college has a good range of facilities, e.g., a refectory, sports and leisure provision There is a lively social scene at my university/college
Social Identification	Wilkins et al. (2016)	5	.88	I feel a bond with the other students in my university/college It is pleasant to be a member of the student cohort in my university/college Fellow students are a source of friendship for me
Organizational Identification	Wilkins et al. (2016)	6	.87	I feel proud to be a student at my university I feel a strong sense of belonging with my university/college
Reputation	Ali et al. (2016)	4	.84	The academic programme run by my university/college is reputable My university/college has a good image
Student Satisfaction	Wilkins, Balakrishnan, and Huisman (2012)	4	.89	So far, my university/college has met all of my expectations I am very satisfied with my university/college and would definitely choose it again
Intention to Stay	Sutter and Paulson (2017)	4	.65	I intend to graduate within four to six years after I enrolled in my university/college I will make an effort to graduate within four to six years after I enrolled in my university/college
Supportive Intentions	Balaji, Roy, and Sadeque (2016)	13	.85	I will recommend my university/college to those who ask or seek my advice I would make suggestions to my university/college as to how it can be improved I would wear clothes (apparel) with my university/college logo I would attend future events being sponsored by my university/college

To assess our data for possible common method bias, we first used Harman's one-factor test (Podsakoff *et al.*, 2003). The highest variance explained by a single factor is 39.8%, comfortably below the cut-value of 50%. Then, the common latent factor test was applied to our data, which indicated that common method bias is unlikely to exist in our data since all the difference values are smaller than 0.2.

The results of an initial exploratory factor analysis generated eight factors, the same number of constructs as in the proposed model, and each item loaded at a value exceeding 0.50.

To assess how well the measured variables represent the research constructs, confirmatory factor analysis (CFA) was conducted using the AMOS software version 27. The measurement model fit indices indicate that the data fits the proposed model well: $\chi^2 (628) = 1559.201$, $p < .001$, $\chi^2/df = 2.483$, CFI = .925, TLI = .916, SRMR = .047, RMSEA = .060. All items load on their respective scale and are statistically significant, and all composite reliability values are comfortably above the >.70 threshold, and all average variance extracted (AVE) values are well above the >.50 threshold, indicating convergent validity (Anderson and Gerbing, 1988).

The discriminant validity of the scales was assessed using Fornell and Larcker's (1981) test. The results presented in Table 2 show that all constructs in our model have acceptable discriminant validity, as the lower bound square root of AVEs (.788) is higher than the highest inter-construct correlation (.776). Thus, we conclude that the constructs proposed in our model are valid, reliable and distinct from each other.

Table 2. Means, standard deviations, composite reliability and correlations

	Mean	SD	CR	PQT	SLS	SI	OI	REP	SAT	STAY
Perceived quality of teaching	5.30	1.31	.87	.826						
Student life and support	5.37	1.18	.91	.478**	.788					
Social identification	5.08	1.18	.90	.506**	.722**	.792				
Organizational identification	5.36	1.35	.91	.391**	.634**	.603**	.846			
Reputation	5.27	1.24	.88	.315**	.589**	.581**	.605**	.809		
Student satisfaction	4.93	1.34	.87	.370**	.596**	.539**	.776**	.580**	.794	
Intention to stay	5.11	1.42	.91	.210**	.549**	.465**	.497**	.582**	.569**	.845
Supportive intentions	5.28	1.25	.93	.408**	.505**	.553**	.677**	.638**	.663**	.528**

Notes: Square roots of average variance extracted (AVE) are in bold on the diagonal; inter-construct correlations are below the diagonal; ** $p < .001$

Hypothesis testing

To establish the overall fit of our proposed model, and to test the hypothesized relationships, we ran the full structural model. The results indicate that the data has a good fit with the proposed model: $\chi^2 (635) = 1601.229$, $p < .001$, $\chi^2/df = 2.522$, CFI = .922, TLI = .914, SRMR = .058, RMSEA = .060. The results presented in Table 3 indicate that five of our seven hypotheses are supported. Perceived quality of teaching, organization identification, and institution reputation are the three significant predictors of student satisfaction, and student satisfaction is strongly related to both staying and supportive intentions.

Table 3. Hypothesis test results

Hypothesis	Proposed construct relationship	Standardized estimate	Standard error	Critical ratio	Result
H1	Perceived quality of teaching → Student satisfaction	.089	.044	2.002**	Supported
H2	Student life and support → Student satisfaction	.040	.071	.572 ^{ns}	Not Supported
H3	Social identification → Student satisfaction	.066	.072	.906 ^{ns}	Not Supported
H4	Organizational identification → Student satisfaction	.591	.057	10.407**	Supported
H5	Reputation → Student satisfaction	.308	.061	5.040**	Supported
H6	Student satisfaction → Intention to stay	.594	.053	11.276**	Supported
H7	Student satisfaction → Supportive intentions	.792	.059	13.319**	Supported

Notes: ** $p < .001$, ^{ns} = not significant

Mediation analysis

Our eighth hypotheses predict that student satisfaction acts a mediating construct between its antecedents and students' staying (H8a) and supportive (H8b) intentions. To test the mediating effects of student satisfaction on the relationships between perceived quality of teaching (PQT), student life and support (SLS), social identification (SI), organizational identification (OI), and institution reputation (REP) with students' intention to stay (STAY) and supportive intentions (SUP), the direct and indirect effect sizes and their significances were examined. Table 4 presents the mediation test results. Student satisfaction fully mediates the relationship between perceived quality of teaching and intention to stay, but it only partially mediates the other relationships in our model.

Table 4. Mediation test results

Direct relationship	Direct effect	Indirect effect (through student satisfaction)	Result
Perceived quality of teaching → Intention to stay	.006 ^{ns}	.177**	Full
Student life and support → Intention to stay	.319**	.186**	Partial
Social identification → Intention to stay	.182**	.207**	Partial
Organizational identification → Intention to stay	.185*	.265**	Partial
Reputation → Intention to stay	.314**	.179**	Partial
Perceived quality of teaching → Supportive intentions	.173**	.188**	Partial
Student life and support → Supportive intentions	.201*	.269**	Partial
Social identification → Supportive intentions	.249**	.234**	Partial
Organizational identification → Supportive intentions	.431**	.212**	Partial
Reputation → Supportive intentions	.375**	.208**	Partial

Notes: * $p < .01$, ** $p < .001$, ^{ns} = not significant

Discussion

The strongest relationships in our model are between student satisfaction and its two major consequences, namely staying and supportive intentions. These results are unsurprising since these relationships are logical and well-documented in the literature. Rather more interesting are the discoveries that organizational identification and institution reputation are the strongest significant predictors of satisfaction in our model, and that perceived quality of teaching, while being significant, has a much weaker influence on satisfaction. It is also interesting to note that satisfaction fully or partially mediates all of the relationships between its antecedents and consequences.

To answer the study's first research question about the factors that influence student retention, the results indicate that student life and support, social identification, organizational identification, and institution reputation each have a direct effect on students' intention to stay. Regarding the study's second research question about the factors that influence students' supportive intentions, we found that in addition to student life and support, social identification, organizational identification, and institution reputation, perceived quality of teaching also has a direct effect on students' supportive intentions. The results emphasize that student satisfaction plays an important role in achieving student retention and supportive behaviors.

Study contributions and implications

In the commodified higher education markets that exist globally, universities cannot ignore rankings, accreditations, quality assurance agency assessments, and media coverage, including social media, as these may each influence stakeholders' perceptions of the institution and have consequences for the institution's reputation and student-university identification. The findings of this research indicate that organizational identification and institution reputation are strong determinants of student satisfaction, and that student satisfaction is strongly related to students' staying and supportive intentions. Student retention and completion rates are important to universities because they impact upon the levels of tuition fee income received; the assessments of quality assurance agencies, on which accreditations and funding may depend; and the institution rankings that use these as measures. Achieving the consumers' supportive behaviors is important to any service organization. Higher education in particular benefits from word of mouth and personal recommendations to attract student applications and funding (Hong and Yang, 2009; Kim *et al.*, 2010). Furthermore, students' supportive behaviors may contribute to reputation-building, for example, when students wear university-branded clothes.

Although every student expects or hopes to receive high quality teaching and services, these alone are not enough to create high levels of overall satisfaction. Somewhat surprisingly, by far the strongest predictor of student satisfaction is organizational identification, and organizational identification also has the strongest direct effect on students' supportive intentions. Our results contrast somewhat with the findings of Henning-Thurau *et al.* (2001), who emphasize the relationship between perceived quality of education and students' supportive intentions. Our findings suggest that organizational identification should be included as a construct in future predictive models that are concerned with student satisfaction, student retention, and supportive intentions. Furthermore, universities need to develop and implement strategies that promote organizational identification.

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To identify with their university, students need to form a psychological attachment to the institution, which requires a sense of belonging and oneness. Organizational identification develops when the values and goals of the student and university are aligned (Reade, 2001). Thus, institutions need to develop a culture of care and concern, which puts the student at the center of everything they do. For example, Bove *et al.* (2009) found that consumers' organizational citizenship behaviors are associated with the service workers' commitment and benevolence. The quality of teaching and support services must be consistently high, and institutions must be committed to ensuring that every student has a high quality experience, both in and outside of the classroom (Wilkins, 2020).

Institution management should take responsibility for creating performance standards, measuring performance, and implementing corrective measures when the standards are not achieved. Every employee in the institution needs to recognize that they play a role in developing and maintaining the university's reputation, and that this is not the sole responsibility of the marketing department. If a university wants to increase student identification, it cannot ignore reputation-building strategies, since the more attractive an individual perceives the institution's reputation, the stronger their identification with the university will be, and the more likely that the individual will engage in staying and supportive behaviors (Hong and Yang, 2009).

Universities need to implement communication strategies that emphasize and enhance the institution's reputation and brand quality. To strengthen student-university identification, institutions need to communicate their identities clearly, coherently and in a persuasive manner, emphasizing those aspects of the university's identity that students will perceive as prestigious and similar to their own identities (Wilkins and Huisman, 2013). Organizational identification develops and grows over time (Einwiller *et al.*, 2006), so universities need to implement strategies that encourage students to start developing feelings belonging and oneness with the institution as soon as they arrive as freshmen. For example, universities may offer free gifts to students that bear the university's name and logo, such as T-shirts, baseball caps, USB flash drives, and pens. The University of Exeter (UK) once had car stickers that stated, 'Exeter, probably the best university in the world', which was a play on Carlsberg's marketing slogan, 'Carlsberg, probably the best beer in the world'. Students proudly displayed these stickers on their cars because the stickers were perceived as cool, while at the same time they reinforced the message about the university's superior quality and reputation.

Any activities that encourage student involvement and engagement might contribute to the development of student-university identification. These may include participation in team sports as a player or spectator, involvement with the university's clubs and societies, doing part-time paid work for the university, and even attending social events. Texas A&M University provides a good example of an institution that has a unique and distinct culture, which may contribute to the development of strong student-university identification. On any given day, almost all students on the main campus wear an item of clothing or accessory bearing the University name and logo, which are often in the university's maroon color (Wood, 2011). Students at the university, who are commonly referred to as 'Aggies', have their own terminology, using unique terms and phrases when they speak to one another. For example, students may say 'Gig 'em' and flash a thumbs up as a sign of approval or to identify as an Aggie or Aggies fan.

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When a student at Texas A&M University has completed 90 credit hours in their program, they may order a highly symbolic Aggies ring, which is usually made of gold. Many alumni continue to wear the ring for the rest of their lives, as a symbol of pride in their university and to make themselves recognizable to other Aggies. Muster is an annual event held in over 400 locations globally, in which current and former students connect to enjoy an evening of fellowship, while also paying respect to students and staff who passed away during the previous year. Events such as these may contribute to the development of student-university identification among newer students, and the continuance of long term identification among alumni.

Conclusion

This research contributes to the literature by proposing a unique model of student satisfaction, retention, and supportive behaviors that emphasizes the role and importance of organizational identification and institutional reputation in achieving student satisfaction and students' staying and supportive intentions. As with all research, there are some limitations to acknowledge. The data were obtained from only two federal institutions in one country, so the findings may not be generalizable globally. Also, service quality, facilities, and organizational culture in public and private universities may be different, influencing students differently. The study focused on first year full-time undergraduates, so we do not know, for example, whether the findings also apply to graduate and part-time students. Future research could be conducted in different contexts and with different categories of students. As organizational identification strengthens over time, a longitudinal research design may capture how students' satisfaction, staying, and supportive intentions change over time. Finally, the conceptual model may be reconfigured, perhaps with organizational identification or institution reputation as moderating constructs. It would be interesting to discover whether institution reputation is able to compensate for low service quality in teaching or support services in maintaining overall satisfaction.

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