

Student satisfaction in higher education: A systematic review examining its impact on institutional growth and comparative dimensions

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ABSTRACT: The purpose of this comprehensive evaluation of the literature is to examine the connection between higher education institution expansion and student satisfaction (SS). The survey also aims to pinpoint the metrics being contrasted right now when gauging student happiness. The review summarizes recent scholarly publications, including books, conference papers, and journal articles. The results give insight into the comparative dimensions used in student satisfaction research and shed light on the influence of student satisfaction on the growth of higher education institutions.

KEYWORDS: student satisfaction; higher education institutes; growth; comparative dimensions; systematic literature review

1. Introduction

1.1. Background

The success and expansion of higher education institutions are greatly influenced by student satisfaction. It is common knowledge that happy students are more inclined to participate actively in their studies, stick with their academic programs, and advocate for their schools. As a result, higher education institutions are putting more of an emphasis on understanding and improving student happiness. Academic quality, teacher support, campus amenities, student services, and social interaction opportunities are just a few of the variables that make up the idea of student happiness. Higher education institutions may develop an atmosphere that encourages great student experiences and supports student achievement by addressing these factors. Additionally, happy students are more likely to refer their school to other potential students, which may have a big influence on enrollment rates and school reputation.

1.2. Objectives

Examining the link between student happiness and the expansion of higher education institutions is the main goal of this comprehensive literature review. It specifically seeks to ascertain whether student happiness contributes to the growth and achievement of these institutions. The review aims to give a thorough knowledge of the effect of student satisfaction on the expansion of higher education institutions by synthesizing and analyzing current studies^[1]. This review also tries to identify and investigate the aspects that are presently being contrasted in the evaluation of student satisfaction. Knowing the comparative dimensions used in studies on student satisfaction will help you understand the particular aspects that institutions emphasize when assessing and measuring student happiness.

1.3. Research questions

This systematic literature review covers the following research topics in order to accomplish the goals stated above:

- 1) Does student satisfaction add value to the growth of higher education institutes?
- 2) What are the dimensions currently being compared in student satisfaction research?

1.4. Methodology

A methodical strategy will be used to undertake an exhaustive study of the literature. To find pertinent research released during the previous ten years, a thorough search of electronic resources, including academic journals, conference proceedings, and books, will be carried out. The selection criteria will be used to make sure that only top-notch studies that directly address the research topics are included. The results from the chosen research will be organized and analyzed using data synthesis and extraction. We shall list and group the comparison dimensions used in student satisfaction studies. Based on the synthesized evidence, the link between student happiness and the expansion of higher education institutions will also be investigated and debated. The results of the systematic review will shed light on the significance of student satisfaction for the expansion and achievement of higher education institutions. Additionally, by identifying the variables currently being contrasted in student happiness research, it will add to the body of information already in existence, directing future research projects and influencing institutional policies. In conclusion, this systematic literature review intends to study the variables that are compared when measuring student happiness and provide light on the importance of student satisfaction in the context of higher education institutions. This review aims to further knowledge of student happiness as a crucial element in the expansion and improvement of higher education institutions by addressing these research issues.

1.5. Theoretical framework

A study's theoretical framework establishes a conceptual foundation and directs the design and analysis of the research. The theoretical framework acts as a prism through which the research questions are evaluated and the findings are interpreted in the light of the comprehensive literature review on student satisfaction in higher education. The theoretical underpinning for this study includes a number of important theories and ideas about student happiness and how it affects institutional growth. These theories and concepts serve as a framework for the review and offer a conceptual foundation for comprehending the variables and mechanisms influencing student happiness.

1.6. Most used theories

In this section, we discuss the most used theories in databases which will be used in subsequent sections and can also be seen in **Figure 1**.

1.6.1. Expectancy-disconfirmation theory

According to this theory, people generate expectations about a certain event and assess it according to how much it lives up to or falls short of those expectations. This theory contends that students form specific expectations about their educational experience, and that the degree to which these expectations are met or surpassed affects the degree to which students are satisfied^[2]. The review investigates how student expectations, perceptions, and the disconfirmation of those expectations affect overall satisfaction by looking at research that make use of this idea.

1.6.2. Service quality theory

According to this theory, it is crucial to offer clients high-quality services. When it comes to higher education, this theory contends that students view their education as a service and assess its value based on factors like faculty assistance, academic counselling, campus amenities, and administrative services^[3]. The study looks at research that use metrics for measuring service quality to determine how various facets of the educational service affect student happiness^[4].

1.6.3. Social exchange theory

According to this theory, people connect with others with the expectation of earning rewards and benefits in return^[5]. According to this idea, when it comes to the connection between students and institutions, pleased students see their educational experience as a beneficial trade in which they get useful information, support, and training from the institution in exchange for their tuition and dedication^[6]. The study looks at research that look at how satisfied students are with their universities and what advantages they see.

1.6.4. Institutional theory

It is concerned with how organizations adhere to institutional norms and ideals in order to obtain legitimacy and continue to exist^[7]. This theory aids in understanding how institutions react to student happiness in the context of higher education as a method of preserving their reputation and legitimacy. The study looks at research that investigate institutional tactics and procedures targeted at enhancing student satisfaction and the ensuing effect on institutional development.

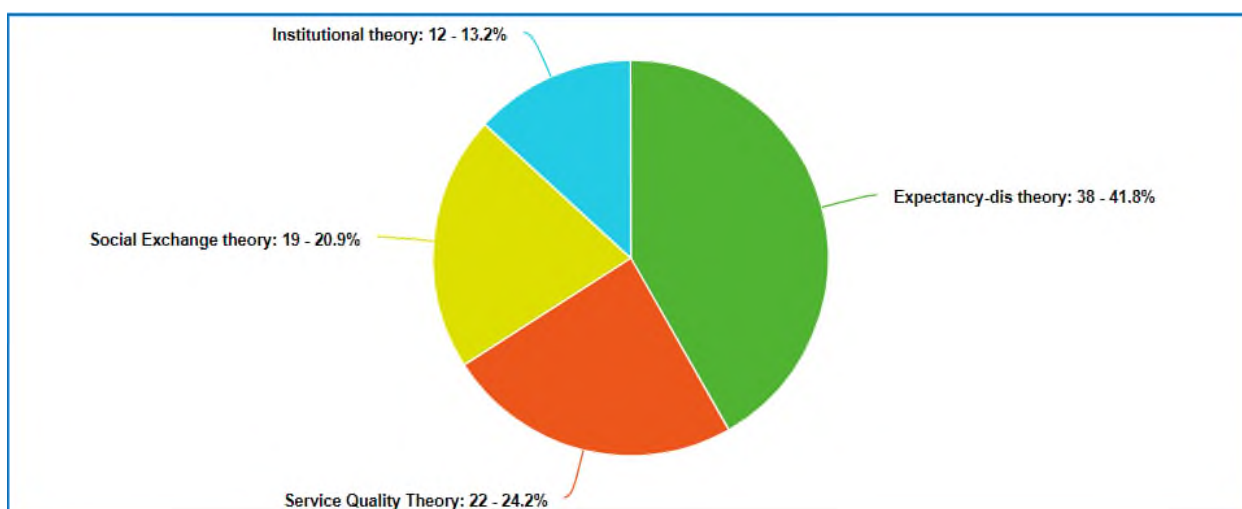


Figure 1. The number of usage theories.

2. Student satisfaction

2.1. Student satisfaction in higher education

In the context of higher education, student satisfaction relates to how well students feel about their educational experiences, services, and support from the institution. Academic quality, the setting for teaching and learning, student services, on-campus amenities, extracurricular activities, and social integration are just a few of the aspects it covers. The ideas of service quality, student engagement, and institutional effectiveness are frequently incorporated into theoretical frameworks in the field of higher education in order to comprehend and clarify the variables affecting student happiness.

2.2. Factors influencing student satisfaction

Student happiness at higher education institutions is influenced by a variety of factors. These elements may be divided into a number of major groups, including:

2.2.1. Academic quality

This dimension includes aspects of curriculum development, course material, instructional strategies, evaluation practices, and faculty assistance. The relevance and rigour of the academic programs, together with the faculty members' expertise, accessibility, and responsiveness, all have a substantial impact on how satisfied students are with their educational experiences.

2.2.2. Campus facilities and resources

Student happiness is greatly influenced by the accessibility and quality of physical resources including libraries, labs, computer facilities, and study areas. A pleasant learning environment and general satisfaction with the school are influenced by well-maintained facilities that cater to students' requirements.

2.2.3. Student services

The institution's support services, which include counselling, career counselling, academic advising, and health services, are crucial in addressing the non-academic needs of students. By resolving their issues and improving their general well-being, effective and accessible student services help students feel satisfied.

2.2.4. Social and extracurricular activities

Students who participate in social and extracurricular activities develop a feeling of community and connection. Student happiness is positively impacted by opportunities for participation in clubs, athletics, cultural events, and community service since these activities foster social integration, personal development, and a well-rounded college experience.

2.2.5. Institutional reputation and image

Students' opinions and expectations are influenced by a school's reputation and image. Student happiness and the recruitment of new students may both be greatly influenced by an institution's positive image, as viewed by both present students and external stakeholders.

2.3. The relationship between student satisfaction and growth of higher education institutes

Higher education institutions' expansion and success are intimately related to students' satisfaction^[4]. Students who are happy with their education have a higher propensity to stay enrolled, persevere through their courses, and earn their degrees^[8]. Additionally, they are more likely to advocate for their school to potential students, which will increase enrolment and improve the institution's reputation. Institutions that place a high priority on student satisfaction are more likely to see greater graduation rates, higher retention rates, and better student outcomes^[7]. A larger demand for the institution's programmes, more applications, and improved competition in the higher education market can all result from pleased students' positive word-of-mouth. Additionally, student happiness helps to build a strong institutional culture that may draw in and keep talented teachers and staff, further improving the standard of instruction and the institution's reputation^[9]. For institutional leaders and policymakers, it is essential to comprehend the variables that affect student happiness and their effects on the expansion of higher education institutions. Institutions may increase their overall efficacy, draw a diverse student body, and

adapt to the changing needs and expectations of students by investing in tactics and projects that address student happiness^[10]. In conclusion, elements like academic quality, campus resources and facilities, student services, social and extracurricular activities, and institutional reputation are all taken into account by the theoretical framework for assessing student happiness in higher education. Institutions may improve their educational offerings, student experiences, and competitive edge in the higher education market by recognizing the significance of student happiness and its effect on the development and success of higher education institutions^[11].

3. Methodology

3.1. Search strategy

A thorough search technique will be used to find pertinent papers in order to perform a thorough systematic literature evaluation. Using relevant keywords and search phrases relating to student happiness, higher education institutions, growth, and comparative aspects, electronic databases including academic journals, conference proceedings, and books will be thoroughly searched. Major academic databases including Scopus, Web of Science, and ERIC as well as pertinent databases focusing on education will be among the databases chosen can be seen in **Table 1** and **Figure 2**.

Table 1. Search strategy.

Database	Search string
Scopus, Eric, Web of Science	TITLE (“student satisfaction”)

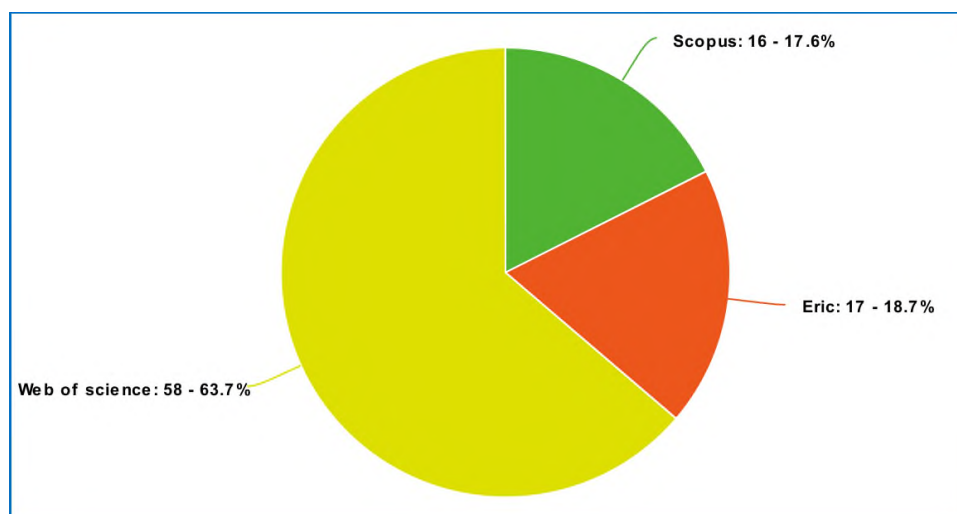


Figure 2. Databases.

3.2. Selection criteria

Studies will be chosen based on previously established inclusion and exclusion criteria given in **Table 2**. The criteria will be set up to make sure that studies that directly address the research questions and offer insightful information about the connection between student satisfaction and the expansion of higher education institutions as well as the variables being compared in student satisfaction research are included.

Social science citation index and science citation index is given in **Figure 3**.

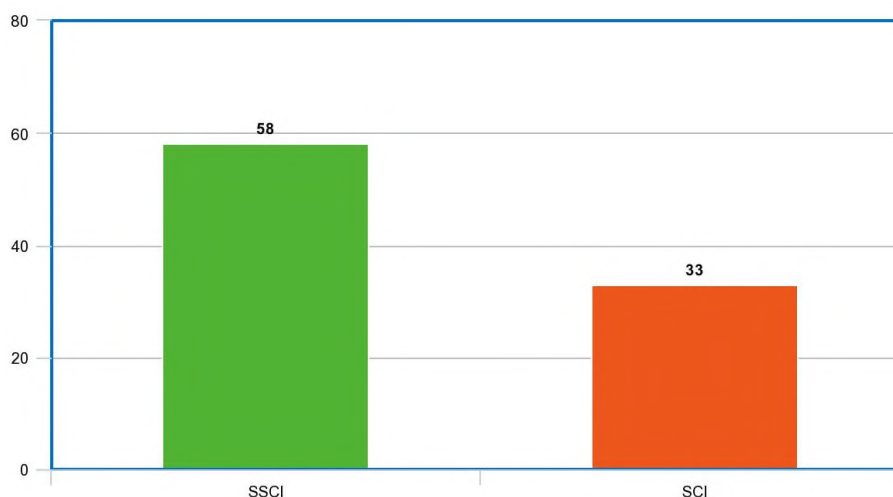


Figure 3. Social science citation index and science citation index.

Table 2. Selection criteria.

Criterion	Inclusion	Exclusion
Document type	Article, books, conference proceedings, and peer-reviewed journals	Studies that have little bearing on student satisfaction with higher education
Language	English	Non-English
Timeline	2013 until 2023	<2013

Inclusion criteria

- Recent studies published in books, conference proceedings, and peer-reviewed SSCI and SCI journals (2013–2023).
- Studies on student happiness at institutions of higher learning.
- Studies that look at how the expansion of higher education institutions is affected by student satisfaction.
- Studies that look at the comparison criteria for student satisfaction.

Exclusion standards

- Studies that have little bearing on student satisfaction with higher education not in English published studies.
- Studies that concentrate largely on K-12 education or career preparation.

3.3. Data extraction and synthesis

The methodical extraction of pertinent information from the chosen research will constitute data extraction. Author(s), publication year, study goals, methodology, important findings, and implications regarding student happiness and the expansion of higher education institutions are among the information that will be collected from the data. To find recurrent themes, recurring patterns, and emerging trends, the retrieved data will be arranged and synthesised.

The dimensions that are currently being compared in student satisfaction research will be identified and examined using a qualitative synthesis methodology, such as theme analysis. We will classify and examine the comparative dimensions used in the chosen studies, offering insights into the particular areas that institutions prioritize when assessing and bench-marking student happiness.

3.4. Quality assessment

To make sure that the review contains solid and trustworthy research, the calibre of the chosen papers will be evaluated. The study design, methodology, sample size, data collecting techniques, and the validity of the findings will all be taken into account during the quality evaluation. Studies that adhere to high criteria for research will be given greater consideration throughout the synthesis and discussion of the results. The chosen studies will be evaluated using a variety of quality evaluation techniques and frameworks according to the study design (such as the Mixed Methods Appraisal Tool^[12,13]). To reduce bias and guarantee consistency, the evaluation will be completed independently by two or more researchers. When analyzing the results and addressing the implications of the examined literature, the quality assessment results will be taken into account. In conclusion, a thorough search strategy, selection criteria, data extraction and synthesis, and quality evaluation will all be part of the approach for this systematic literature review. The inclusion of pertinent studies that directly address the research questions and offer insightful information about the connection between student satisfaction and the expansion of higher education institutions as well as the dimensions currently being compared in student satisfaction research will be ensured by this rigorous approach.

4. Results and discussion

4.1. Student satisfaction and its value in the growth of higher education institutes

The analysis of the chosen studies offers convincing proof of the importance of student happiness in the development and achievement of higher education institutions. The results reveal a number of crucial areas where student happiness has a big impact on institutional success.

4.1.1. Enhancing institutional reputation

Satisfied students frequently act as powerful ambassadors for their schools, enhancing the prestige of the institution. Increased enrollment rates can result from word-of-mouth referrals from happy students, which can draw potential students. Positive institutional reputation also increases the institution's competitiveness in the higher education market by luring top-notch faculty, collaborations, and research opportunities, all of which support the institution's expansion.

4.1.2. Improving student retention and enrollment

Student retention and enrolment rates are greatly influenced by student satisfaction. Students who are happy with their education are more inclined to stick with it, which boosts graduation rates. Additionally, they have a higher propensity to exhibit good academic practices such regular attendance, active participation in class discussions, and the request of academic assistance when necessary. These elements help to boost student happiness and success rates, both of which have a favourable effect on institutional growth.

4.1.3. Enhancing student learning experience

The total learning experience offered by higher education institutions is directly related to student satisfaction. Students are more likely to actively participate in their studies and learn more when they are happy with the calibre of the instruction, curriculum, and learning materials. Institutions may improve student learning experiences and eventually contribute to institutional success if they put a priority on student happiness by fostering a positive learning atmosphere, utilizing cutting-edge teaching techniques, and providing solid academic support services.

4.1.4. Promoting positive word-of-mouth and alumni engagement

Prospective students heavily rely on the opinions and experiences of current and former students when making decisions about their higher education choices. Therefore, institutions that prioritize student satisfaction and foster strong alumni engagement have the potential to attract more prospective students.

4.2. Comparative dimensions in student satisfaction research

The review of the literature also indicates the many comparison aspects used in studies on student satisfaction. These criteria are used as comparison points for assessing and contrasting student satisfaction levels in various circumstances.

4.2.1. Methodological approaches

Numerous methodological techniques, like as surveys, interviews, focus groups, and quantitative data analysis, are used in studies to gauge student happiness. Each strategy offers distinctive insights into many facets of student happiness, enabling a thorough comprehension of the issue.

4.2.2. Demographic variables

When comparing student satisfaction levels, demographic factors including gender, age, financial position, and ethnicity are frequently taken into account. These factors make it possible to spot potential variances in satisfaction levels depending on personal traits and experiences.

4.2.3. Institutional characteristics

Comparisons of institutions based on their features, such as public vs. private institutions, universities vs. colleges, or campuses in urban vs. rural areas, shed light on how these aspects of the institutions themselves may affect student happiness. These comparisons help organizations identify their advantages and disadvantages in comparison to other organizations of a similar nature and adjust their strategy appropriately.

4.2.4. Service quality dimensions

In order to gauge student satisfaction, service quality variables including academic advising, campus amenities, and administrative services are frequently compared. The areas where institutions might concentrate their efforts to raise the calibre of services offered to students are highlighted by these parameters.

4.2.5. Cultural and international comparisons

Student satisfaction is examined in comparative study in many national and international contexts. These comparisons help to guide strategies for addressing the particular needs and expectations of varied student populations and offer insightful information on how cultural influences affect student happiness.

4.3. Discussion of findings

According to the findings of this comprehensive evaluation of the literature, higher education institutions' development and performance are greatly influenced by how satisfied their students are. Institutions may improve their reputation, increase student retention and enrolment, improve the learning experience, and foster good word-of-mouth and alumni involvement by putting the needs of their students first. Furthermore, institutions may evaluate their performance and pinpoint areas for growth thanks to the comparative dimensions used in student satisfaction research. A variety of instruments and procedures are offered by methodological approaches to assess and comprehend student

happiness. Institutions use demographic information and institutional traits to identify satisfaction level variances and adjust their methods as necessary. Dimensions of service quality highlight areas on which institutions should concentrate their efforts to increase student satisfaction.

Even though the literature evaluation offers insightful information, it's crucial to recognize its limitations. The review is restricted to the studies present in the chosen databases and the review period. There could be pertinent research that weren't considered in the analysis. The definitions and methods used to assess student happiness may also differ between research, which might make it difficult to compare the results.

5. Implications and future directions

5.1. Implications for higher education institutes

The results of this comprehensive evaluation of the literature have the following effects on institutions of higher learning.

5.1.1. Prioritize student satisfaction

Students' contentment should be valued by institutions and given strategic consideration. Institutions may improve their image, draw in new students, increase student retention, and ultimately support their development and success by putting the needs of their students first.

5.1.2. Enhance teaching and learning

Institutions should put their efforts into developing a welcoming and stimulating learning environment that fits the academic demands of students. This entails making investments in qualified instructors, cutting-edge teaching techniques, curriculum creation, and academic support services. Institutions may increase student satisfaction and foster institutional growth by reinvesting in the teaching and learning process.

5.1.3. Strengthen student services

Institutions should make sure that student support services are accessible and efficient. In order to meet students' non-academic needs and advance their general well-being, counselling, career advice, academic advising, and other student services are essential. Enhancing these offerings can promote greater student satisfaction and support school expansion.

5.1.4. Foster alumni engagement

The alumni community should be actively engaged by institutions to encourage good word-of-mouth and boost institutional reputation. Alumni who share their good experiences and success stories can act as important brand advocates for the college. Building strong alumni networks and maintaining relationships with previous students may support institutional growth and draw in new students.

5.2. Implications for researchers

Future studies in the area of student satisfaction in higher education may benefit from the conclusions of this thorough literature review.

5.2.1. Longitudinal studies

Longitudinal studies that look at the connection between institutional growth and student happiness over an extended period of time may be useful for future study. Such research would allow for the

discovery of trends and patterns as well as insights into the long-term effects of student satisfaction on various institutional outcomes.

5.2.2. Comparative studies

Studies that compare student happiness across various institution types, regions, and cultural settings are possible. Comparative research can assist institutions adjust their methods to fit the demands of their unique student populations by illuminating the variables that affect variances in student satisfaction levels.

5.2.3. Emerging trends

Researchers should look into new trends and how they affect student happiness as higher education continues to change. Examining how new technology, virtual learning environments, and alternative teaching methodologies affect student happiness is part of this. Institutions will be better able to adapt to shifting student expectations and preferences if they are aware of these changes.

5.3. Limitations and recommendations for future research

In order to offer suggestions for future study and to acknowledge the limitations of this comprehensive literature review.

5.3.1. Publication bias

Because research with favorable or substantial findings are more likely to be published, the review's conclusions might be biased by the publishing of such studies. Future study may take into account incorporating unpublished papers or performing a meta-analysis of the available literature to lessen this bias.

5.3.2. Cross-cultural perspectives

Most of the chosen studies may have concentrated on certain geographical areas, which may have limited the generalizability of the findings across other cultural settings. To give a thorough knowledge of student happiness across many cultural contexts, future research should incorporate a wider variety of cultural viewpoints.

5.3.3. Mixed methods research

The review mostly concentrated on qualitative and quantitative studies; however future study may employ mixed methodologies. In order to capture both quantitative information on student satisfaction levels and qualitative perceptions of the underlying causes impacting satisfaction, this would enable a more thorough investigation of student satisfaction (shown in **Table 3**). This systematic literature review's recommendations highlight the necessity for higher education institutions to put a high priority on student happiness while also improving teaching and learning, bolstering student services, and encouraging alumni participation. Future studies should investigate longitudinal and comparative studies, look at new trends, and deal with constraints including publication bias and cross-cultural viewpoints. Institutions can better comprehend the importance of student happiness in their development and success by addressing these implications and suggestions, and scholars may expand the body of information in the topic.

Table 3. Future research questions on student satisfaction.

Q no	Future research questions
1	What is now to be learned from and through student satisfaction?
2	What is now to be compared in student satisfaction?

Table 3. (Continued).

Q no	Future research questions
3	Do theories of satisfaction affect the SS?
4	What are the most significant threats facing the institutes?
5	Do theories of satisfaction explain the participation of institutions in the SS?
6	How might multiple country studies be discussed inside a single SS research framework using UK National Student Survey (NSS)?
7	Does the higher education institute's behaviour benefit SS?
8	Does the institution's behaviour play a supportive role in the SS?
9	Does the gender of the lecturer, the age and experience of the lecturer, the lecturer's personality, the field of study, the level of study (undergraduate vs graduate), and the student's academic attainment all play a role in how satisfied students are with the lecturer and the quality of instruction they receive?
10	How to identify specific skills, experiences, or institutional factors that enabled students to succeed across various instructional styles?

6. Conclusion

Comprehensive analysis of student satisfaction in higher education institutions and its effects on institutional growth are provided through systematic literature reviews. The review's findings show how important student happiness is to the growth and success of higher education institutions. The findings point to numerous crucial areas where increasing student happiness has a big impact on institutional development. By increasing alumni involvement and word-of-mouth, institutions may recruit more students, increase enrollment rates, and become more competitive in the higher education market. Additionally, student happiness has a direct bearing on retention and enrolment rates, which raises graduation rates and boosts student achievement. The total learning process and results for students are improved by institutions that put a high priority on student happiness by offering a supportive learning atmosphere, cutting-edge teaching techniques, and comprehensive academic support services. Insights into assessing and comparing satisfaction levels in various circumstances are provided by the comparative dimensions used in student satisfaction research. A thorough knowledge of student happiness is provided through methodological techniques, demographic factors, institutional traits, and service quality parameters, which help institutions pinpoint areas for development. This review has consequences for both researchers and higher education institutions. By improving teaching and learning, bolstering student services, and encouraging alumni participation, institutions can put a priority on student happiness. By doing this, they may improve their standing, increase enrollment and retention rates, and encourage institutional expansion. Researchers may increase information on student happiness in higher education by undertaking longitudinal studies, comparing research, and analyzing new patterns. Despite the insightful conclusions drawn from this comprehensive literature assessment, it is critical to recognize some limitations. The review is limited by the number of research that are present in the chosen databases and by the review's time span. There could be pertinent research that weren't considered in the analysis. The comparability of results may also be impacted by differences in how student satisfaction is defined and assessed between research.

In conclusion, higher education institutions' expansion and performance depend greatly on how satisfied their students are. Institutions may improve their image, raise student results, and entice new students by putting a priority on student happiness and addressing areas for improvement. To further assess student happiness, investigate new patterns, and solve the shortcomings noted in this analysis,

additional research is required. Institutions and scholars may aid in the continued improvement of student happiness and the ongoing advancement of higher education by doing this.

Conflict of interest

The authors declare no conflict of interest.

References

1. Ikram M, Kenayathulla HB. A systematic literature review of student satisfaction: What is next? *International Journal of Advanced Research in Education and Society* 2022; 4(4): 50–75. doi: 10.55057/ijares.2022.4.4.5
2. Abd Aziz NN, Awang Kader MAR, Ab Halim R. The impact of Technostress on student satisfaction and performance expectancy. *Asian Journal of University Education* 2021; 17(4): 538–552. doi: 10.24191/ajue.v17i4.16466
3. Pham L, Limbu YB, Bui TK, et al. Does e-learning service quality influence e-learning student satisfaction and loyalty? Evidence from Vietnam. *International Journal of Educational Technology in Higher Education* 2019; 16(1): 1–26. doi: 10.1186/s41239-019-0136-3
4. Teeroovengadam V, Nunkoo R, Gronroos C, et al. Higher education service quality, student satisfaction and loyalty: Validating the HESQUAL scale and testing an improved structural model. *Quality Assurance in Education* 2019; 27(4): 427–445. doi: 10.1108/QAE-01-2019-0003
5. Rueda L, Benitez J, Braojos J. From traditional education technologies to student satisfaction in management education: A theory of the role of social media applications. *Information & Management* 2017; 54(8): 1059–1071. doi: 10.1016/j.im.2017.06.002
6. Chandra T, Ng MM, Chandra S, Priyono. The effect of service quality on student satisfaction and student loyalty: An empirical study. *Journal of Social Studies Education Research* 2018; 9(3): 109–131.
7. Brown RM, Mazzarol TW. The importance of institutional image to student satisfaction and loyalty within higher education. *Higher Education* 2016; 58(1): 81–95. doi: 10.1007/s10734-008-9183-8
8. Puriwat W, Tripopsakul S. The impact of e-learning quality on student satisfaction and continuance usage intentions during COVID-19. *International Journal of Information and Education Technology* 2021; 11(8): 368–374. doi: 10.18178/ijiet.2021.11.8.1536
9. Pham TN, Nguyen GH. An investigation of student satisfaction in an online language learning course. *International Journal of Web-Based Learning and Teaching Technologies* 2021; 16(5): 121–136. doi: 10.4018/IJWLTT.20210901.0a7
10. Nyathi M, Sibanda E. E-learning: substitutability of learner–learner, and learner–facilitator interactions to enhance learner satisfaction in higher education. *Journal of Research in Innovative Teaching & Learning* 2023; 16(2): 210–225. doi: 10.1108/JRIT-04-2022-0018
11. Mai LW. A comparative study between UK and US: The student satisfaction in higher education and its influential factors. *Journal of marketing management* 2005; 21(7–8): 859–878. doi: 10.1362/026725705774538471
12. Pluye P, Hong QN. Combining the power of stories and the power of numbers: Mixed methods research and mixed studies reviews. *Annual Review of Public Health* 2014; 35: 29–45. doi: 10.1146/annurev-publhealth-032013-182440
13. Creswell JW, Plano Clark VL. *Designing and Conducting Mixed Methods Research*, 3rd ed. Sage Publications; 2018.