

Student Satisfaction With Learning Experience and Its Impact on Likelihood Recommending University: Net Promotor Score Approach

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Like any business, universities realize the importance and relevance of customer satisfaction that leads to customer recommendations, which is vital to their long-term success, survival, and growth. This study examines university students' satisfaction with various aspects of their college learning experience, recommending a university as measured by Net Promoter Score (NPS), and the influence of factors related to student satisfaction on the likelihood of recommending the university. The survey results, based on 220 responses from current students, identify students' satisfaction with the factors included in the study, where students had the highest satisfaction with the attribute 'feeling support by faculty and staff.' The study also found that the NPS is -0.40, indicating that students are not likely to recommend this university to other potential students, where NPS varies by gender, class level, and major. In addition, a regression analysis identifies factors to predict the likelihood of recommending this university. These findings offer insights to university administrators for designing strategies to improve student satisfaction and procure recommendations.

Keywords: student satisfaction, net promoter score, getting recommended, university experience

INTRODUCTION

Universities are increasingly operating within a challenging and dynamic environment. For instance, the Chronicle of Higher Education (2022) reports that overall enrollment was down 1.1 percent for the fall of 2022, and colleges have lost more than one million students since the fall of 2019. Other estimates even suggest that when only undergraduate students are considered, enrollment declines have been around 3.6 percent since 2019 (Berrett, 2020). However, decreased enrollments are not the only competitive pressure facing Higher Education Institutions (HEIs). Public funding is experiencing a sharp decline, requiring

institutions to increase tuition and fees or decrease faculty and staff to offset reduced funding. Additionally, the steady rise of inexpensive universities and online education options has placed even more pressure on enrollment and net tuition targets. Importantly, these changes in the competitive landscape come after nearly 70 years of consistent growth, dating back to the mid-1950s (U.S. Census Bureau, 2021). As such, the previous 70 years required little innovation or changes in strategy to meet enrollment targets. Contrasted with a contemporary, highly competitive market, HEIs are now actively seeking new and innovative ways to attract and retain customers (i.e., students).

One way HEIs are addressing this change is by applying marketing strategies for enhanced recruitment and retention (Asaad et al., 2013). Chen (2008) argues that as competition for students has increased, HEIs have increased their focus on marketing strategies where students are viewed as customers and potential customers. Consequentially, higher education branding has evolved to be more than academic programming and has increasingly included other life experiences and overall well-being. Existing research has identified various factors that affect the overall institutional brand image, including the learning environment, the social environment, perceived quality, facilities, and auxiliary services (Santini et al., 2017). The intentional branding of universities and a focus on marketing strategies have helped HEIs attract, engage, and retain students, and position institutions in the competitive landscape (Wilson & Elliot, 2016). A university's brand image helps articulate the distinct characteristics that separate it from its competitors and creates a rational and emotional connection with its potential customers (Keller, 2002).

Marketing and branding have become even more critical because of the recent decline in enrolment in HEIs. This decline is evident from recent trends. For example, in the 10 years from 2010 to 2019, the average annual growth rate was negative 0.7% (National Center for Education Statistics, 2020). More recent enrollment figures, for 2020, show an overall enrollment decline of 2.5%, where some of this decline may be due to COVID-19 and could be temporary (Berrett, 2020). A recent survey supports this belief where 31% of adults over 18 years old reported that "all plans to take classes in the fall had been canceled for at least one household member", the most cited reason being COVID-19-related (Irwin, 2021). In addition, the increased investment in HEIs caused a doubling of the industry capacity (Bok, 2003; Zemsky et al., 2005; Anctel, 2008), and along with declined enrollment and decreased government funding, the rules of competition in HEIs have been redefined. All these trends emphasize the importance of understanding students' satisfaction and meeting their educational expectations to deliver a great learning experience.

The recent trends mentioned above in college enrollment suggest that a better understanding of student college experience, academic and non-academic, and satisfaction, is required if universities are to restore growth to their institutions and remain viable. Given the potential for growth and the importance of social media for word of mouth (WOM) to recommend organizations and brands and share customer experience, universities must have a better understanding of the factors that influence students' academic as well as non-academic experiences and their satisfaction to create a positive image of the university. This research aims to determine if student satisfaction, operationalized as a Net Promoter Score (NPS), is a useful way for HEIs to better understand their competitive position.

Background

The NPS was first introduced by Reichheld (2003) in his Harvard Business Review article, *The One Number You Need to Grow*. This article presented NPS as a metric to assess customer experience, satisfaction, loyalty, and the likelihood that customers would recommend a firm (or product) to others. At its core, the NPS approach views customer loyalty as the primary growth driver. That is, satisfied customers are loyal to the brand and are more likely to recommend a company to friends and colleagues. In this regard, customer satisfaction is considered essential for the long-term success of businesses (Al-Adwan & Al-Horani, 2019). Satisfaction refers to consumers' overall evaluation of the total buying and consumption experience with services or products over time (Anderson *et al.*, 2004). As a result, satisfaction is widely studied by scholars and practitioners to understand its impact on post-consumption behaviors of loyalty, repurchase intention, and recommendation (Cooil *et al.*, 2007). Studies indicate that satisfied customers build trust and develop positive intentions that lead to purchasing more from the same firm and/or more of the same brand, as well as product recommendations and positive WOM (Anderson & Mittal, 2000). The

factors indicative of delighted customers include brand loyalty, customer satisfaction, and high-quality customer service (Qualtrics, 2021). A study by Eger & Mičik (2017) that examined the influence of customer-oriented communication on customer satisfaction and loyalty using mystery shopping found a positive relationship between customer satisfaction and loyalty (index NPS). Given the importance of satisfaction with the factors relevant to students' university experience and their impact on the likelihood of recommending a university, this study examines the students' satisfaction with their education and learning experience and the potential effect of these factors on NPS in predicting the likelihood of recommending this university.

Marketing in Higher Education

Other studies have examined factors important to the marketing of colleges and universities. For example, Ivy (2008) identified several important factors in selecting a business school: academic reputation, tuition, brochures, interactions with faculty, students, and staff, and publicity. Other studies emphasized the importance of interactions among people (faculty, students, staff, community) and processes in marketing services (Cowell, 1982; Nicholls et al., 1995). A study by Black (2008) shows the faculty, staff, and administrators' important role as trust agents in delivering universities' brand promises. Prior research (Pinar et al., 2011, 2020; Girard and Pinar, 2020) confirms the importance of faculty in university branding where the perceived quality dimension included all faculty-related experiences. The role of faculty is also supported in a study by Pinar and Belk (2023), where students have the highest positive experience (satisfaction) with the statement, 'the professors care about my academic success' in both online and in-person learning context for students learning experience regardless of learning environment.

While the factors mentioned above are important for marketing colleges and universities as well as student satisfaction and loyalty, Elliot & Shin (2002) claim that student satisfaction goes beyond the education itself and includes factors and activities students experience in class and outside class. More specifically, student satisfaction could be related to their level of engagement with faculty and offering classes to match student preferences, among other things. Moreover, successful universities surpass the minimal academic needs of students and direct some attention to less tangible needs such as well-qualified faculty and high faculty-to-student ratios, and student emotions, as well as an effective learning environment and student-supporting activities (Pinar et al., 2011; Girard & Pinar, 2020). In a truly student-focused learning environment, universities could take active initiatives to understand student perceptions to isolate factors influencing student satisfaction (Pinar et al., 2011, 2020; Girard & Pinar, 2020).

Student Satisfaction With College Education

Research reveals that students' perception of value at higher education institutions has long-term effects and extends beyond their college years. Students' satisfaction is determined by comparing their expectations and their realized experiences at the college they attend. The "value of experience" is also described as participation, engagement, and interaction with the campus community--has a strong impact on student satisfaction. Based on results from a survey of 357 students, Gunarto and Hurriyati (2020) suggest that higher experience value will result in higher student satisfaction. These findings indicate that when measuring student satisfaction, campus involvement and connectedness and initial perceptions about the college should be considered.

Various direct and indirect sources are used to understand the satisfaction of current students. For example, the university under study introduced a retention software called Starfish, which allows advisors and faculty to easily communicate with students about their academic progress and satisfaction and make support services efficient and effective (Starfish, 2019). Informally, faculty have assessment methods to gauge student satisfaction and generally report that more involved students are happier at the University than those who are uninvolved (Johnson, 2021). On a larger scale, this university and other universities send the National Survey of Student Engagement (NSSE) to first-year and senior students, including questions about students' perceptions of the university in and out of the classroom. The survey results are used to enhance the university experience of current and future students (Brown, 2021). Results of the NSSE survey capture student feedback and the survey's findings are vital to university administration.

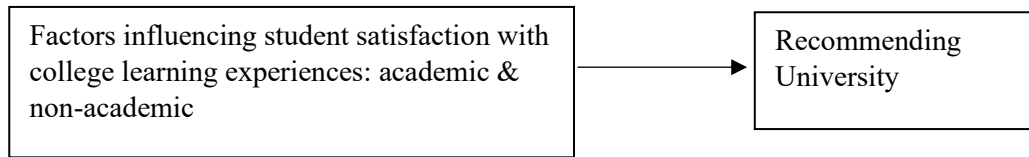
To gain additional insights into students' satisfaction with their college experience, in-depth interviews were conducted with college students from different classes (two sophomores, six juniors, and one senior). Students were asked if they were satisfied with their choices to attend this university (Bortz et al., 2021). Seven out of nine respondents reported that, overall, they were satisfied. Moreover, they were also asked whether they had the same perception of the university now as they did when applying to and choosing this university. Eight out of nine respondents' perceptions have changed since attending the university. Two participants found this university smaller than they expected, two participants ended up liking the school more than they thought they would, one participant found more Greek Life involvement than they were expecting, and three participants thought there would be more social events and activities that are offered (Bortz et al., 2021). It is important to note that some social events and activities that students are missing would normally take place at this university. Still, due to the pandemic, the campus and county do not currently allow for large in-person events. These in-depth interviews provided insights into students' perceptions regarding their experiences with various activities and their satisfaction with their college experiences. These factors identified via in-depth interviews are used in developing the survey.

Net Promoter Score

Recently NPS has gained popularity and been adopted by thousands of industrial major firms worldwide, such as Amazon, Apple, DHL, and many more. The NPS concept was first introduced by Reichheld (2003) as a simple means to measure customer loyalty and a method to predict customer purchase and referral behaviors (Rowe, 2021). The basic premise is that the firms with the highest NPS achieved twice the returns in the stock market (Reichheld *et al.*, 2021). In essence, NPS measures customer satisfaction and loyalty based on their experience and the likelihood that they recommend the product, service, or the firm's brand to friends and relatives. The NPS survey question asks, "How likely is it that you would recommend "organization, product, service" to a friend or colleague, using a scale of 0 to 10, where 0=not likely at all and 10=extremely likely. While *promoters* are the customers who would recommend the brand and select scores of 9 or 10 on an 11-point scale, *detractors* are customers who would not recommend the brand and select scores of 0 to 6 on the same scale. The third group is *passives* who select scores of 7 or 8 and are excluded from the NPS calculation. The NPS is determined by a formula that results in a single score for benchmarking by subtracting the percentage of promoters from the percentage of detractors.

There are several benefits of using NPS over other customer satisfaction measures (Lee, 2021). Several studies have been undertaken to identify the influential factors that lead to a high NPS, most of which are in service industries, such as healthcare (Hamilton *et al.*, 2014; Brown, 2020), retail (Eger & Mičik, 2017; Keiningham *et al.*, 2007), insurance (Kristensen & Eskildsen, 2011) and library (Srirahayu et al., (2021). After the NPS of an organization is calculated, companies can compare their NPS to the average NPS of an industry, which is readily available from many reputable sources. Numerous NPS benchmarking studies conducted in different industries (NPS Benchmark, 2021) show most industries' NPS fell between 28 and 47. A study was conducted by Srirahayu et al. (2021) to determine the NPS score of state academic library users, the relationship between user loyalty and NPS scores, and the relationship between user satisfaction with NPS. Their results show that user satisfaction does not have a direct effect on NPS scores but has an indirect effect on NPS through loyalty, whereas loyalty has a direct effect on NPS scores. Eger & Mičik (2017) also found that consumer satisfaction is positively related to loyalty, an index for NPS. To the best of our knowledge, NPS for colleges and universities is not available, nor are there studies that used the NPS approach to determine the factors influencing student recommendations for colleges and universities. Therefore, this study intends to examine the NPS in higher education and identify the factors related to student satisfaction that could be related to predicting the NPS and; thus, students' likelihood of recommending the university. Figure 1 presents a framework for the proposed relationships in this study. The NPS and satisfaction factors relevant to predicting NPS could have important implications for university administrators in developing effective strategies.

FIGURE 1
PROPOSED RELATIONSHIP BETWEEN BRANDING FACTORS AND
RECOMMENDING UNIVERSITY



Study Objectives

Like all organizations, universities have realized the importance and relevance of student satisfaction for their long-term survival. The research also shows that recommendations from current customers (students and alums of the universities) are an important source for growing any business, universities are no exception. This study intends to examine university students' satisfaction with various aspects of their college learning experience, recommending a university as measured by Net Promoter Score (NPS), and the influence of factors related to student satisfaction on the likelihood of recommending the university as shown in Figure 1. The specific study objectives are to:

- RO1:** *Evaluate students' satisfaction with their educational experience compared to their expectations at the university.*
- RO2:** *Determine students' likelihood of recommending the university to friends and family members – promoting university and NPS and compare if the likelihood of recommending and NPS is impacted by student gender, class level, and college.*
- RO3:** *a) Determine the relationship between student satisfaction and NPS and b) identify the satisfaction factors relevant in predicting NPS b1) overall, b2) by college, and b3) class level.*
- RO4:** *Discuss the implications of the finding for designing effective marketing strategies for recruiting, education experience, and career opportunities.*

METHODS

A survey was designed to examine the research objectives (ROs), where questions were compiled from the literature (e.g., Anderson *et al.*, 2004; Cooil *et al.*, 2007; Qualtrics, 2021) and qualitative research using focus groups with current students and in-depth interviews. The focus groups, with current students, helped identify a list of important factors for students' college experience. In addition to the literature review, interviews (Brown, 2021; Johnson, 2021) and focus groups helped identify nine factors that were the most relevant to the student experience and impacted satisfaction with their college education. These factors were measured using a 5-point agreement scale, ranging from 1=strongly disagree to 5=strongly agree. To measure the likelihood of recommending the university under study using a NPS, the respondents were asked, "How likely is it that you will recommend the university to high school students", which is measured with an 11-point scale, ranging from 0=not at all likely to 10=extremely likely (Reichheld, 2003). Finally, the survey included demographic questions for gender, class level, and enrolled college. The survey was pretested with students from the target population. This pretest provided good feedback about the appropriateness and relevance of the questions and improved the clarity and understandability of questions as well as face validity (Churchill and Iacobucci, 2005).

In addition, the factor analysis of these nine questions produced two distinct factors, where seven questions were loaded on one factor, named as a *learning experience* and two questions were loaded on another factor, named as a *cultural experience*. These two factors explained 64.4% of the variance, factor

1 explained 39.9% of the variance extracted, and factor 2 24.5%. The reliability analysis of each factor found that the alpha score for factor 1 is 0.865 and for factor 2 is .882, indicating a high-level consistency among the questions or items included in each factor.

Sampling and Data Collection

This study was conducted at a comprehensive private university in the Midwestern United States. The survey was administered to undergraduate students with the help of the university administration. A sample of 633 students was randomly selected, which accounted for roughly 25% of current undergraduate students. All participants were degree-seeking undergraduate students who were at least 18 years of age and did not have a privacy flag on their accounts. The survey link was emailed to all 633 students and completed via Google Forms. Respondents were informed that the survey was optional and that their responses would remain confidential. As an incentive, three participants who completed the survey were randomly selected to receive a \$20 Starbucks gift card. The survey was open for two weeks. This method produced 219 usable responses, which was a 34.6% response rate.

Respondents Demographic Profiles

The selected respondent profiles in Table 1 show that most (70.2%) were female, 28.0% were male, 0.9% were binary and 0.9% preferred not to answer. Distributions across class levels showed that 19.6% were freshmen, 24.7% were sophomores and juniors, and 31.15% were seniors. The distributions of respondents by college indicated that 26.9% were in nursing and health professions, 10.0% in engineering, 10.5% in business, and 52.5% in arts and science. Only four international students responded, thus the majority (98.16%) were domestic students. The average age of respondents was 20.6 years old.

**TABLE 1
SELECTED RESPONDENT PROFILES**

Gender	n	Percent
Male	153	28.0
Female	61	70.2
Non-binary	2	0.9
Prefer not to answer	2	0.9
Total	218	100.0
Class	n	Percent
Freshman	43	19.6
Sophomore	54	24.7
Junior	54	24.7
Senior	68	31.1
Total	219	100.0
College	n	Percent
Nursing & Health Professions	59	26.9
Engineering	22	10.0
Business	23	10.5
Arts & Sciences	115	52.5
Total	219	100.0
International	n	Percent
Not International Student	213	98.2
International Student	4	1.8
Total	217	100.0
	Mean	Std. Dev.
Age	20.6	1.7

RESULTS

To accomplish RO1, which examines students' satisfaction with their educational experience according to their expectations, we conducted a one-sample t-test using a neutral scale point (test value=3) on a 5-point scale. This test determined if students were satisfied with various aspects of their college experience. As indicated above, there were nine questions (attributes) to measure student satisfaction with their college experiences compared to their expectations before starting at this university.

A factor analysis of these nine questions produced two distinct factors, where seven questions were loaded on one factor, named as a *learning experience* and two questions were loaded on another factor, named as a *cultural experience*. These two factors explained 64.4% of the variance, factor 1 explained 39.9% of the variance extracted, and factor 2 explained 24.5% of the variance extracted. The reliability analysis of each factor found that the alpha score for factor 1 is 0.865 and for factor 2 is .882, indicating a high level of consistency among the questions or items included in each factor.

The one-sample t-test results revealed that all attributes concerning students' satisfaction with the university were significantly higher than the neutral value ($p < 0.01$), indicating that students were satisfied with all these attributes. The mean values presented in Figure 2 show that for learning experience attributes, students had the highest satisfaction with 'feeling supported by faculty and staff, and the next three attributes with the highest satisfaction are 'education experiences, experience with the university, and extracurricular opportunities.' As for cultural attributes, students had a lower but significant level of satisfaction. Since all mean values, but one, were lower than four on a 5-point scale, students do not seem highly satisfied with their college experience at this university. The implications of these findings will be discussed later.

To address RO2, which is to determine students' likelihood of recommending the university to friends and family and determine if there are differences by student gender, class level, and college, several analyses were conducted. As previously stated, NPS is measured using an 11-point scale, ranging from 0 to 10. Using this scale, promoters would recommend the product or brand and select scores of 9 or 10, whereas detractors would not recommend the product and select scores of 0 – 6. The third group is called passives who select scores of 7 or 8 and are excluded from the NPS calculation. The NPS is calculated by subtracting the percentage of responses given by detractors from the percentage of responses given by promoters. The net promoter score will be used in various analyses herein.

Descriptive statistics were examined to gain initial insights about the NPS question; Figure 3 presents the distribution of these responses. The distribution shows respondents were likely to recommend this university, albeit not highly. Promoters with the highest score (10 on the NPS scale) accounted for 21.5% of the respondents, which suggested that it is extremely likely that these respondents will recommend this university. Total promoters comprised 31.1% (21.5 + 9.6) of the respondents. The responses in the detractor category were spread out from a score of 1 at the low end (3.2% of responses) to a score of 6 at the high end (11.4% of responses). Total detractors comprised 31.5% of the respondent population, which suggested that these respondents were not likely to recommend this university. Interestingly, most of the respondents (37.5%) were in the "passive" group, indicating that they were indifferent. This could have important implications for this university that will be discussed later.

FIGURE 2
MEAN LEVELS OF SATISFACTION WITH VARIOUS FACTORS AT UNIVERSITY

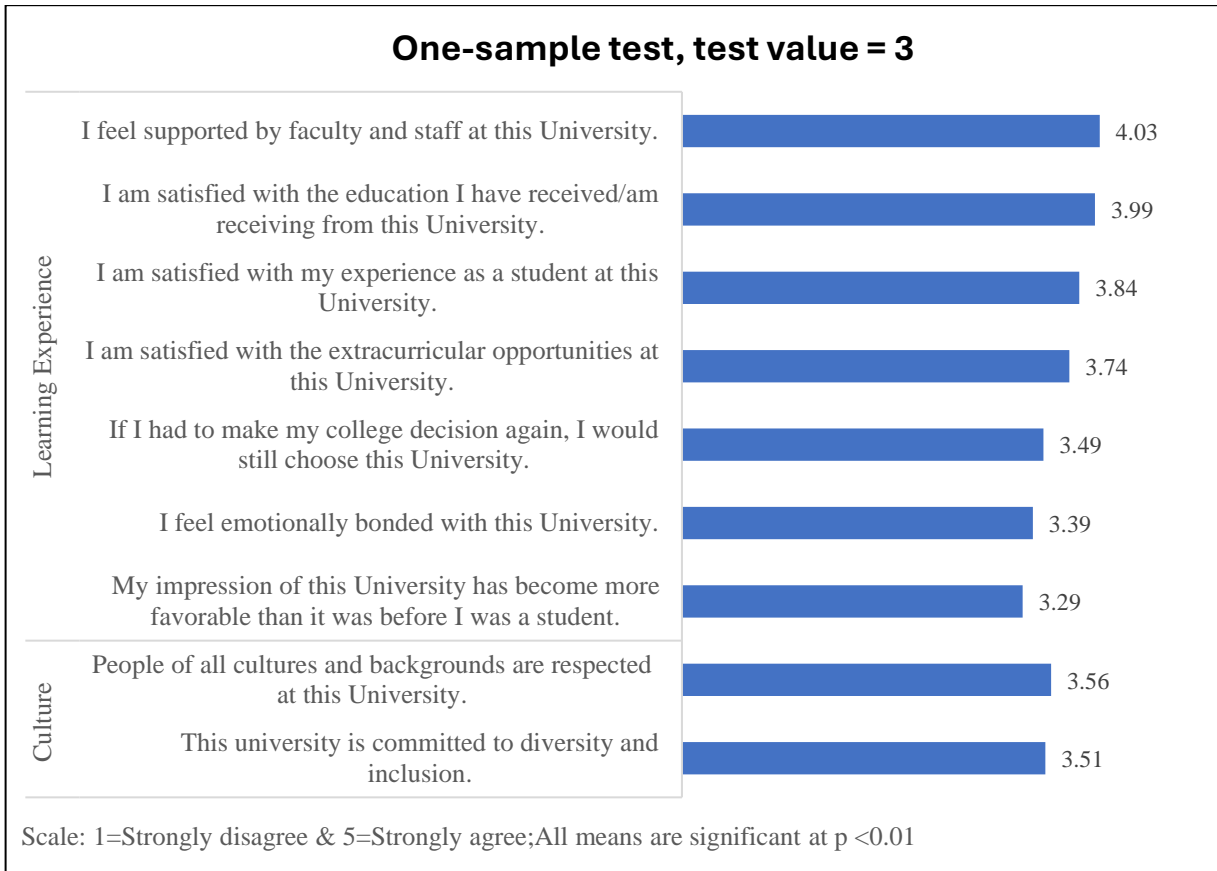
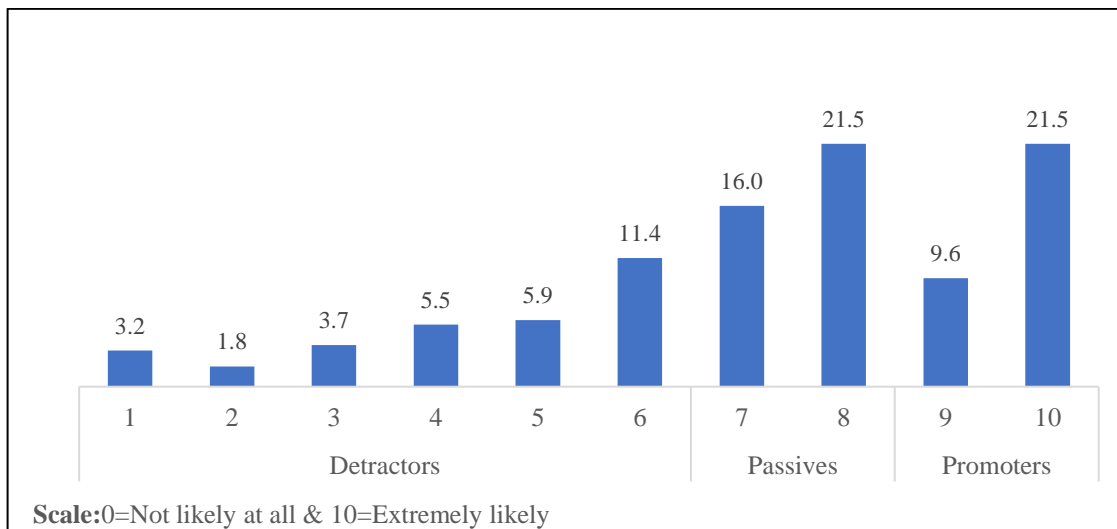
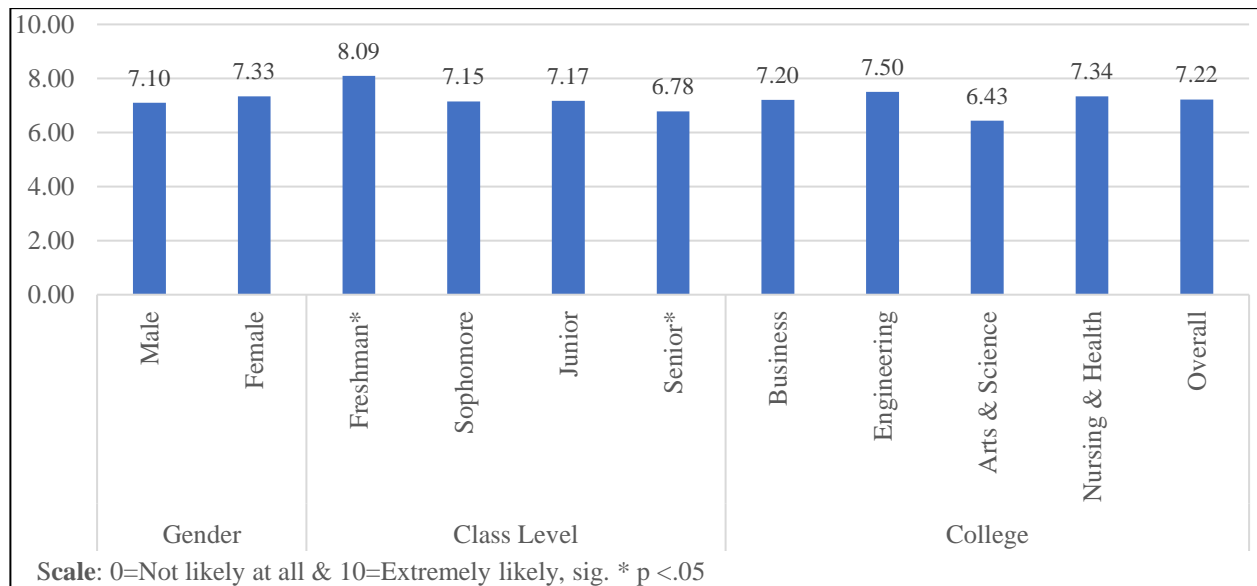


FIGURE 3
FREQUENCY DISTRIBUTION OF NPS: LIKELIHOOD RECOMMENDING TO HIGH SCHOOL STUDENTS (PERCENT)



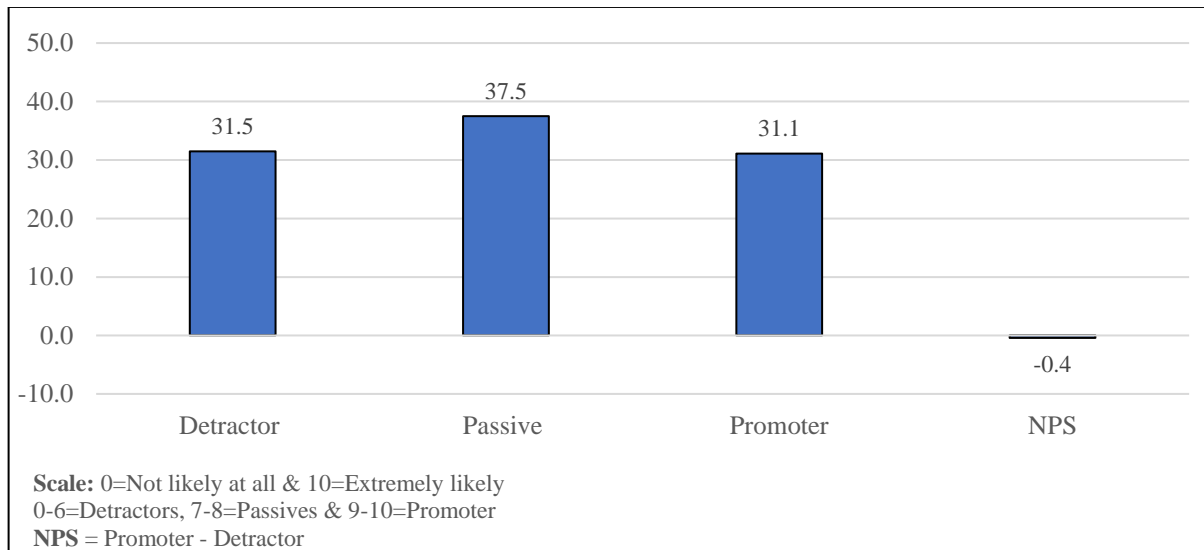
The mean values for the likelihood of a recommendation are calculated for overall mean value and mean values by gender, college, and class level. As presented in Figure 4, the overall mean value is 7.22, which falls in the lower part of the ‘passive’ category. The mean values for recommending this university to HS students by gender, class level, and college showed that all mean scores but two were in the passive range (7-8), and two mean values were below the passive range for seniors and the Arts & Sciences. The results in Figure 4 show that the mean values for seniors and Arts & Sciences majors were below seven on the measurement scale, falling into the detractor range, which suggested that senior students and students in Arts & Sciences generally were not satisfied with their college experience. Comparisons of responses to the NPS questions by gender, class level, and college in Figure 4 showed significant differences between freshmen and seniors based on their likelihood to recommend ($p < 0.05$), where freshmen students had significantly higher mean scores than seniors, yet both were in the passive range. All other comparisons for class levels, gender, and college were not significantly different ($p > 0.05$), indicating that they had similar perceptions and fell into the passive range with a similar likelihood of recommending this university.

FIGURE 4
EXAMINING THE LIKELIHOOD OF RECOMMENDING UNIVERSITY BY
GENDER, CLASS AND COLLEGE



The second part of RO2 was to determine the overall NPS and the NPS by gender, college, and class level. Figure 5 shows the distribution of detractors, passives, promoters, as well as NPS for all respondents. The results showed that 31.5% of respondents were detractors, 37.5% were passives, and 31.1% were promoters. The NPS for this university, therefore, was -0.4 (31.1-31.5 = -0.4), which is negative. This indicated that there were more detractors than promoters, so students at this university were not likely to recommend their university to HS students. This NPS should be taken very seriously, as the NPS reflects student dissatisfaction, and it should be a major concern for the administrators of this university. Therefore, it should be further investigated to determine the reasons for having such an NPS.

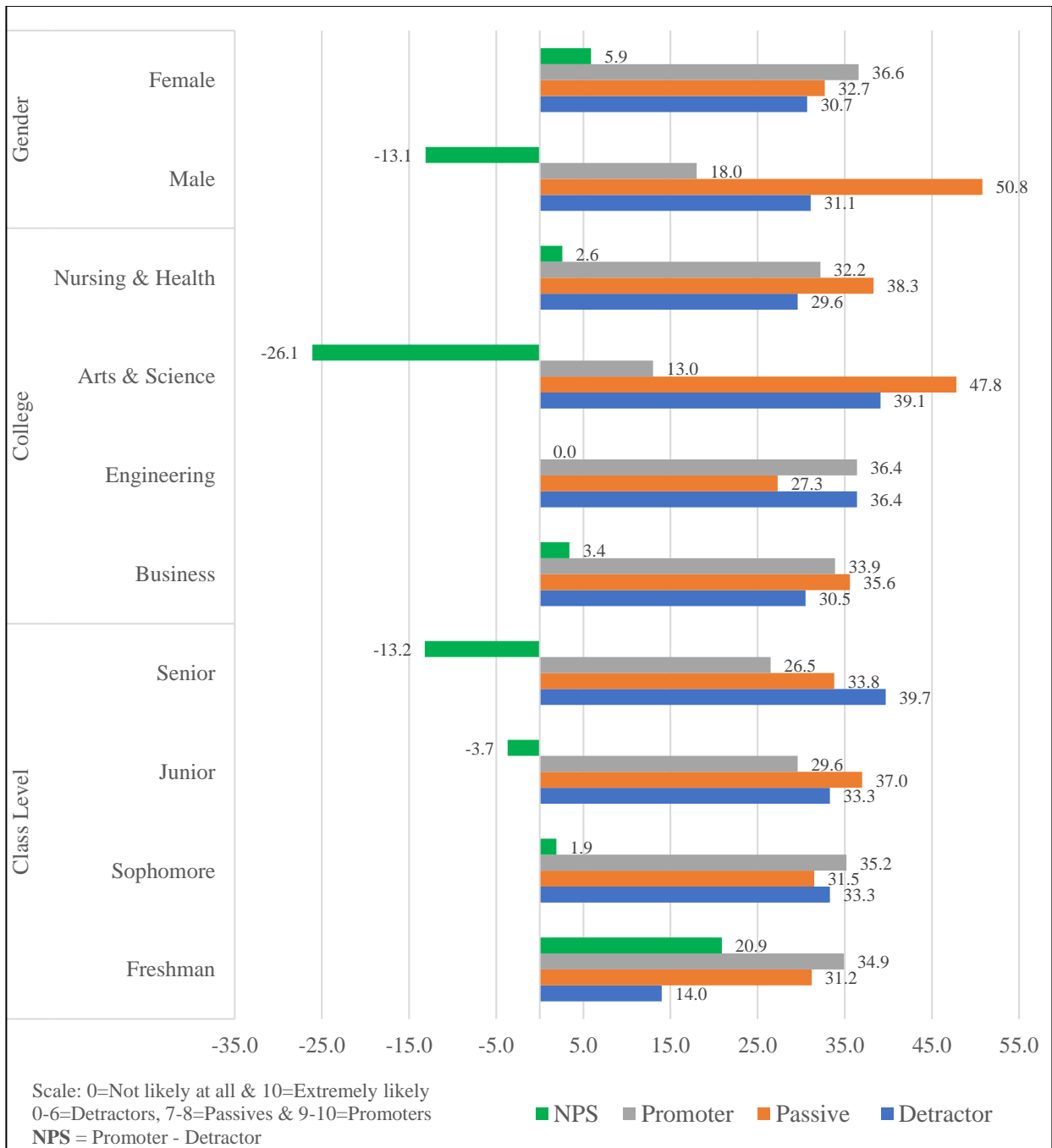
FIGURE 5
LIKELIHOOD TO RECOMMEND AND NET PROMOTER SCORE (PROMOTERS -
DETRACTORS AS PERCENTS)



Respondent demographics also examined NPS. Figure 6 presents the distributions for detractors, passives, promoters, and NPS by gender, college, and class level. The positive NPS of 5.9 (36.6-30.7=5.9) for female respondents indicates that more female students are promoters than detractors, whereas the negative NPS of -13.1 (18.0-31.1=-13.1) for males suggests that there are more male students were detractors than promoters. It should be noted that while 32.7% of female respondents are passives, half of the male students (50.8%) are passives. Since NPS measures customer satisfaction that results in the likelihood of recommending the firm or brand, a negative NPS for male students indicated that they were unsatisfied with their university experience. However, the results show that half of the male students are indifferent, indicating that they are neither dissatisfied nor satisfied. The results by colleges show that the colleges of business, and nursing and health sciences had more promoters than detractors, resulting in positive NPSs of 3.4 (33.9-30.5= 3.4) for business and 2.6 (32.2-29.6= 2.6) for nursing & health science, whereas the college of engineering had the same percent of promoters and detractors, resulting in a zero NPS (36.4-36.4= 0.0).

The College of Arts & Science had more detractors than promoters; the NPS was -16.1 (13.0-39.1= -26.1), indicating that their students were not satisfied with their college experience. Arts & Science also had one of the largest passive groups (47.8), which suggests that they are indifferent, and neither dissatisfied nor satisfied based on the NPS scale. Results by student class level (see Figure 6) showed that freshman and sophomore students had a positive NPS of 20.9 and 1.9 respectively, whereas juniors and seniors had a negative NPS of -3.7 and -13.2 respectively. Freshman students had the largest positive NPS, and seniors had the largest negative NPS. The high positive NPS for freshman students could be the result of their initial impressions of the university compared to their expectations with minimal experience. On the other hand, the finding for senior students suggests that as students' experience in various areas increases with this university, they become less satisfied with their experience as their expectations have not been met; thus, they are less likely to recommend the university to HS students. These findings could have important implications for the university that will be discussed later.

FIGURE 6
EXAMINING PROMOTERS, DETRACTORS AND PASSIVES FOR UNIVERSITY BRAND BY
GENDER, COLLEGE AND CLASS



To address Part A of RO3, to determine the relationship between student satisfaction and NPS and b) identify the satisfaction factors relevant in predicting NPS b1) overall, b2) by college, and b3) class level, correlation, and regression analyses were conducted. A correlation matrix in Table 2. shows that all correlation coefficients were significant ($p < 0.01$), indicating the existence of strong correlations among factors included in the study. The likelihood of recommending the university had the highest correlation with ‘satisfied with my experience as a student ($r = .707$)’. This is followed by “I would choose this

university again” and “My impression of this university has become more favorable than before I was a student”. These significant correlation coefficients provide initial insights about identifying the attributes and students’ satisfaction to determine the likelihood of recommending this university to HS students.

TABLE 2
CORRELATIONS BETWEEN THE SATISFACTION FACTORS AND
RECOMMENDING UNIVERSITY

Factors related to satisfaction		e1	d1	d2	d3	d4	d5	d6	d7	d8
e1	I would recommend this university to high school students I know.									
d1	I am satisfied with my experience as a student at this university.	.707**								
d2	My impression of this university has become more favorable than it was before I was a student.	.650**	.636**							
d3	I feel emotionally bonded with this university.	.599**	.588**	.577**						
d4	I feel supported by the faculty and staff at this university.	.379**	.517**	.352**	.441**					
d5	I am satisfied with the education I have received/am receiving from this university.	.471**	.582**	.369**	.385**	.630**				
d6	I am satisfied with the extracurricular opportunities at this university.	.397**	.440**	.400**	.447**	.373**	.340**			
d7	This university is committed to diversity and inclusion.	.493**	.452**	.415**	.344**	.346**	.357**	.311**		
d8	People of all cultures and backgrounds are respected at this university.	.503**	.407**	.414**	.327**	.266**	.258**	.267**	.792**	
d9	If I had to make my college decision again, I would still choose this university.	.685**	.709**	.526**	.588**	.403**	.507**	.376**	.482**	.462**

To accomplish Part b of RO3, a regression analysis was also conducted to determine which of the satisfaction attributes could predict the likelihood of recommending the university. Table 3 presents the regression analysis results for all respondents (RO3 b1), where the likelihood of recommending the university was the dependent variable and the attributes used to measure student satisfaction were the independent variables. Since the satisfaction variables were significantly correlated, a stepwise regression analysis was used to include the most relevant independent variables. The final regression model for all respondents was significant ($p < 0.001$) with an adjusted R Square of 0.637, indicating these independent variables explained 63.7% of the variance in the dependent variable. The results showed that, as indicated by significant standardized Beta coefficients ($p < .05$, $p < .01$), ‘satisfied with my experience as a student’ was the most important variable (Std. Beta=.265) in predicting the dependent variable of likelihood to recommend. The predictors of the likelihood to recommend this university in the order of importance are ‘My impression of this university has become more favorable than it was before I was a student., I would again choose this college; people of all cultures and backgrounds are respected, and I feel emotionally bonded with his college’. These findings could help improve the likelihood of getting student recommendations.

TABLE 3
REGRESSION ANALYSIS TO PREDICT UNIVERSITY RECOMMENDATION TO HIGH SCHOOL STUDENTS (DEPENDENT VARIABLE: RECOMMENDING)

Independent Variables	Beta	Std. Error	Std Beta	t	sig.
(Constant)	-0.135	0.432		-0.313	0.755
Satisfied with my experience as a student	0.640	0.159	0.265	4.025	0.000
My impression of this university has become more favorable than it was before I was a student.	0.456	0.110	0.238	4.126	0.000
If I had to make my college decision again, I would still choose this university.	0.408	0.117	0.220	3.480	0.001
People of all cultures and backgrounds are respected at this university.	0.319	0.097	0.157	3.305	0.001
I feel emotionally bonded with this University.	0.243	0.111	0.122	2.181	0.030

Note: R = .803, Adj. R Square = .637; **Scale:** 0=Not likely at all & 10=Extremely likely

In addition to analysis for all respondents, regression analyses were conducted by colleges (RO3 b2) and by class levels (RO3 b3). More specifically, separate regression analyses were conducted for four colleges to predict the likelihood of recommending each college to HS students using attributes related to satisfaction as independent variables. Table 4 presents the significant attributes ($p < .05$ or $p < .01$) in predicting the likelihood of recommending each college to HS students. All regression models were significant ($p < .001$) with high R Square values (Table 4). The results showed that different attributes included in the study were significant predictors of the likelihood of being recommended for each college. As shown in Table 4, the results for the College of Business show that ‘the university is committed to diversity and inclusion’ is the most important predictor (Std. Beta=0.37) of the likelihood of recommending this university to HS students (Part A of Table 4). This is followed by ‘I am satisfied with my experience as a student at this university’ and ‘I feel emotionally bonded with this university.’ For the college of engineering students ((Part B of Table 4), ‘I am satisfied with my experience as a student at this university’ is the most important predictor (Std. Beta=0.68) of the likelihood to recommend this university, followed by ‘people of all cultures and background are respected at this university’.

The findings for the College of Arts and Sciences show that ‘if I had to make my college decision again, I would still choose this university’ is the only predictor (Std. Beta=0.66) of the likelihood of recommending this university to HS students (Part C of Table 4). The results for respondents of the College of Nursing and

Health Professions (Part D of Table 4) show that ‘my impression of this university has become more favorable than it was before I was a student’ is the most important predictor (Std. beta=.36) of the likelihood to recommend this university to HS students, followed by ‘I am satisfied with my experience as a student at this university’ and ‘if I had to make my college decision again, I would still choose this university’. Interestingly, ‘I am satisfied with my experience as a student at this university’ was common for three colleges, except the College of Arts and Sciences. This is very important since ‘satisfaction with college experience’ is the most critical factor for the likelihood of recommending this university, which is consistent with the essence of the NPS concept. The implications of these findings for developing strategies to increase the likelihood of being recommended and NPS will be discussed later.

TABLE 4
REGRESSION ANALYSIS TO PREDICT RECOMMENDING UNIVERSITY TO HIGH SCHOOL STUDENTS BY COLLEGES

Part A: College of Business					
	B	Std. Error	Beta	t	Sig.
Constant	-1.371	0.818		-1.677	0.099
This university is committed to diversity and inclusion.	0.813	0.182	0.37	4.456	0.000
I am satisfied with my experience as a student at this university.	0.937	0.284	0.35	3.302	0.002
I feel emotionally bonded with this university.	0.633	0.206	0.31	3.075	0.003
Note: R = .937, Adj. R Square = .684; Scale: 0=Not likely at all & 10=Extremely likely					
Part B: Engineering					
	B	Std. Error	Beta	t	Sig.
Constant	-1.060	1.413		-0.750	0.462
I am satisfied with my experience as a student at this university.	1.647	0.334	0.68	4.939	0.000
People of all cultures and backgrounds are respected at this university.	0.591	0.260	0.31	2.272	0.035
Note: R = .818, Adj. R Square = .634; Scale: 0=Not likely at all & 10=Extremely likely					
Part C: Arts & Science					
	B	Std. Error	Beta	t	Sig.
Constant	2.866	0.956		2.996	0.007
If I had to make my college decision again, I would still choose this university.	1.132	0.287	0.66	3.941	0.001
Note: R = .661, Adj. R Square = .409; Scale: 0=Not likely at all & 10=Extremely likely					
Part D: Nursing & Health Profession					
	B	Std. Error	Beta	t	Sig.
Constant	0.829	0.521		1.592	0.114
My impression of this university has become more favorable than it was before I was a student.	0.650	0.132	0.36	4.912	0.000
I am satisfied with my experience as a student at this university.	0.765	0.198	0.34	3.863	0.000
If I had to make my college decision again, I would still choose this university.	0.417	0.144	0.24	2.896	0.005

Note: R = .802, Adj. R Square = .633; **Scale:** 0=Not likely at all & 10=Extremely likely **Dependent Variable for all models:** Recommending Valparaiso University

Regression analysis was conducted for each class level (RO3 b3), and the significant Std. Beta coefficients ($p < .05$, $p < .01$) are presented in Table 5. All regression models were significant ($p < .001$) with high R Squares. Interestingly, there was only one significant attribute for freshman students to recommend this university, whereas there were multiple attributes significant for other class levels. More specifically, ‘if I had to make my college decision again, I would still choose this university’ was the only significant factor (Std. Beta=0.56), for freshman respondents in predicting the likelihood of recommending this university to HS students (Part A of Table 5). As shown in Part B of Table 5 for sophomore students, ‘My impression of this university has become more favorable than it was before I was a student’ is the most important predictor (Std. Beta=0.42) of the likelihood to recommend this university, followed by ‘if I had to make my college decision again, I would still choose the university’, and ‘I am satisfied with my education I have received/am receiving from this university’.

Similarly, the results for juniors (Part C of Table 5) show that ‘I am satisfied with my experience as a student at this university’ is the most important predictor (Std. Beta=0.34) of the likelihood of recommending this university to HS students. This is followed by ‘if I had to make my college decision again’, ‘I would still choose the university’, and ‘I feel emotionally bonded with this university’, ‘my impression of this university has become more favorable than it was before I was a student’, and ‘I am satisfied with the extracurricular opportunities at this university’. Finally, the findings for seniors (Part D of Table 5) indicate that ‘I am satisfied with my experience as a student at this university’ is the most important predictor (Std. Beta=0.42) of the likelihood of recommending this university to HS students, followed by ‘people of all cultures and backgrounds are respected at this university’ and ‘my impression has become more favorable than before being a student’. It is interesting to note that ‘I am satisfied with my experience as a student at this university’ is a common predictor for sophomore, junior, and senior students in likelihood to recommend this university. These findings could help the university administrators to improve recommendations for this university.

TABLE 5
REGRESSION ANALYSIS TO PREDICT A RECOMMENDING UNIVERSITY TO HIGH SCHOOL STUDENTS BY CLASS LEVELS

Part A: Freshman	B	Std. Error	Beta	t	Sig.
Constant	4.759	0.802		5.933	0.000
If I had to make my college decision again, I would still choose this university.	0.847	0.200	0.56	4.229	0.000
Note: R = .556, Adj. R Square = .292; Scale: 0=Not likely at all & 10=Extremely likely					
Part B: Sophomore	B	Std. Error	Beta	t	Sig.
Constant	0.194	0.733		0.265	0.792
My impression of this university has become more favorable than it was before I was a student.	0.802	0.165	0.44	4.852	0.000
If I had to make my college decision again, I would still choose this university.	0.689	0.164	0.39	4.193	0.000
I am satisfied with the education I have received/am receiving from this university.	0.516	0.208	0.20	2.476	0.017
Note: R =.876, Adj. R Square = .753; Scale: 0=Not likely at all & 10=Extremely likely					

Part C: Junior	B	Std. Error	Beta	t	Sig.
Constant	-2.867	0.890		-3.221	0.002
I am satisfied with my experience as a student at this university.	0.977	0.275	0.34	3.558	0.001
If I had to make my college decision again, I would still choose this university.	0.424	0.186	0.22	2.282	0.027
I feel emotionally bonded with this university.	0.524	0.198	0.22	2.648	0.011
My impression of this university has become more favorable than it was before I was a student.	0.467	0.173	0.22	2.696	0.010
I am satisfied with the extracurricular opportunities at this university.	0.419	0.187	0.175	2.240	0.030
Note: R = 883, Adj. R Square = .756; Scale: 0=Not likely at all & 10=Extremely likely					
Part D: Senior	B	Std. Error	Beta	t	Sig.
Constant	-0.737	0.768		-0.961	0.340
I am satisfied with my experience as a student at this university.	1.008	0.263	0.42	3.832	0.000
People of all cultures and backgrounds are respected at this university.	0.608	0.179	0.29	3.387	0.001
My impression of this university has become more favorable than it was before I was a student.	0.528	0.212	0.26	2.492	0.015

Note: R = .799, Adj. R Square = .622; **Scale:** 0=Not likely at all & 10=Extremely likely

Dependent Variable for all models: Recommending Valparaiso University

DISCUSSION, LIMITATIONS, AND FUTURE DIRECTIONS

In the present research, we used the NPS framework to better understand the factors that make current students more (and less) likely to recommend their university to other potential HS students. Although previous research has utilized similar frameworks, such as student engagement and student satisfaction (e.g., Al-Adwan & AL-Horani, 2019; Elliot & Shin, 2-21; Gray et al., 2003; Pinar & Belk, 2023; Santini et al., 2017), the NPS framework extends this literature beyond psychological factors (engagement and satisfaction) into behavioral dimensions (NPS). Results from our survey of 220 respondents at a private Midwest university indicate that consistent with other NPS studies (e.g., Eger and Mičik, 2017; Hamilton et al., 2014; Reichheld et al., 2021; Srirahayu et al., 2021), NPS is a useful tool that universities can use to better understand enrollment and admissions decisions.

Our first important finding is that two orthogonal dimensions contribute to NPS: a learning experience and a cultural experience. The learning experience includes support from faculty and staff, extracurricular activities, education quality, and emotional bonds. On the other hand, the cultural dimension includes aspects related to diversity and inclusion. Although developing and testing a theoretical model that tests for different outcomes based on these factors was beyond the scope of our study, future research should consider how different perceptions of learning and cultural experiences contribute to NPS. The learning experience may play the more important role, but the cultural experience may be a multiplier that either reinforces or denigrates recommendation choices.

Our second relevant finding was that we observed much variance across our different sample groupings. In particular, we found a substantial difference in mean values for the likelihood of recommending this university between Freshmen (M = 8.09) and Seniors (M = 6.78). Future research should consider if this finding is unique to different universities, or if a general trend appears where the longer an individual attends an educational institution, the less likely they are to recommend it to others. From a practical perspective, this finding is undesirable, the present university should develop systems and structures to enhance the

student experience as students move to become upperclassmen. The university studied has a robust first-year experience, perhaps it is also worth considering a second, third, and fourth-year experience.

Additionally, we found a high degree of variance between colleges within the university. In our sample, female students have a positive NPS, whereas male students have a negative NPS, which requires attention to improve the male students' NPS which may increase the likelihood of being recommended by male students. Also, college results indicate College of Engineering has the highest mean value ($M = 7.50$) for the likelihood of recommending this university, and Arts and Science has the lowest mean value ($M = 6.43$). Concerning NPS for colleges, while the College of Business and College of Health Sciences have positive NPS of 3.4 and 2.6, respectively, the College of Engineering has an NPS of zero and the College of Arts and Science has a negative NPS of -16.1. These NPSs are way below the desired industry benchmarks of 27 to 49 (NPS Benchmark, 2021), so they require attention to improve them. Therefore, future research should consider the primary drivers of such variance between colleges within the same university. It is likely that these differences are caused by factors within the colleges' control, and could be related to curricular choices (e.g., required internships, utilization of cohort models, experiential courses) or co-curricular choices (e.g., student clubs, faculty-student mentoring, common spaces for student interactions).

Our third finding was that certain items on the NPS were more highly related to the likelihood of recommending the university than others. Specifically, we found that five items were significantly related to recommendations to high school students (see Table 3). Of these five dimensions, four were educational experiences and one was a cultural experience, which could help the university to improve the NPS, thus, the likelihood of recommending this university. Since our study aimed to identify individual items that drive recommendation decisions at the studied university, this granular information is important for our purpose. However, we encourage future research to use the aggregate NPS score to determine its predictive ability across a larger sample of universities. Likewise, future research should consider the differential impacts of different items to develop the best strategies to promote recommendations.

The results of the study by the colleges show that different attributes/factors were significant for predicting the likelihood of recommending each college to HS students. Interestingly, "I am satisfied with my experience as a student at this university" is a common attribute/factor in predicting the likelihood of recommending the College of Business, the College of Engineering, and the College of Nursing & Health Profession to HS students. Also, the attribute "If I had to make my college decision again, I would still choose this university" commonly predicts the likelihood of recommending the College of Arts & Sciences and the College of Engineering to HS students. Since these attributes are related to student satisfaction, these findings show the importance of student satisfaction for university, consistent with prior research (i.e., Elliot & Shin, 2-21; Gray et al., 2003; 2023; Santini et al., 2017). These results indicate that, instead of using aggregate analysis, each college could utilize the significant attributes to increase the likelihood of getting recommended to HS students.

The findings by the class level show that while the different attributes are significant predictors of the likelihood of recommending the university to HS students, there were some common attributes among different class levels. For example, 'If I had to make my college decision again, I would still choose this university' was a common predictor for freshmen, sophomore, and junior students, 'My impression of this university has become more favorable than it was before I was a student' is a common predictor for Sophomore, junior, and senior students, and 'I am satisfied with my experience as a student at this university' is a common predictor for junior and senior students. Since these attributes are related to student satisfaction, these results further confirm the importance of student satisfaction with the university, again they support the findings of prior studies. Finally, it seems that as students move from freshman to senior level, more factors influence their likelihood of recommending the university to HS students. This suggests that the university must pay attention to more factors that are related to students' learning experience if the university is interested in increasing the likelihood of getting recommended by its students.

Limitations of the Study

This study provided some insights into using the NPS approach to student satisfaction with various attributes/factors about their education experience, identified the factors related to predicting the likelihood

of recommending the university to HS students, and determined if these attributes/factors differed by college and class level. However, the study has some limitations that should be considered when interpreting the findings. First, the study was conducted at one university in the midwestern United States. The same study should be conducted at other colleges or universities to improve the generalizability of the findings. Second, this study was conducted at a private university, the same study could be conducted at a public university to compare the consistency of the results. Third, the sample size was relatively small, a study with a larger sample size would improve the reliability and validity of the findings. Finally, the study used a few attributes to measure student satisfaction and predict the likelihood of recommending the university. Future studies could use more attributes to capture diverse student learning experiences to understand student satisfaction and their relevance to predicting the likelihood of recommending a university. Despite these limitations, the study offered some valuable insights about the use of the NPS approach in predicting the likelihood of recommending a university to prospective HS students, where the attributes identified as predictors of recommending could be beneficial for university administrators to develop effective strategies to increase the NPS and increase the likelihood of getting recommended.

CONCLUSION

Like all other businesses, Universities have realized the importance of customer satisfaction and its effects on driving future success. This manuscript introduces the NPS framework to better understand the factors influencing an individual's likelihood of recommending higher education institutions. Overall, our findings suggest that the NPS is a useful lens to view the relationship between a student's experience and the likelihood that they would recommend the institution to others. We believe this type of research is extremely important and timely given that most industry insiders expect that the number of college students could decline by 15 percent over the next three to five years (e.g., Kline, 2019; Berrett, 2020), placing an even greater emphasis on effective recruitment practices. In the end, we believe that the NPS framework could prove useful for institutions seeking innovative, state-of-practice methods to attract new students.

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