Student Satisfaction Towards Students' Affair Services in Private Universities in Xi'an, China: A Pilot Testing

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Abstract

Private universities in Xi'an, China, have seen significant growth recently, drawing students from diverse regions. Ensuring high levels of student satisfaction is vital for these institutions to stay competitive and fulfill their educational missions. Pilot testing is essential in the research process, guaranteeing that the research instrument, in this case, a questionnaire, is well-constructed, effective, and capable of gathering accurate and meaningful data. By addressing issues identified during pilot testing, researchers can improve the reliability and validity of their research, increasing the likelihood of obtaining valuable results in the main study.

Developing a valid and reliable measurement tool is essential for effectively assessing and enhancing these services. In this study, we outline the questionnaire's development process, including item generation and validation, and report the results of a pilot test conducted to assess its reliability and validity. The findings indicate that the questionnaire holds promise as an instrument for evaluating student satisfaction with students' affairs services in private universities in Xi'an. The pilot test results confirm the SSSA-Q's validity and reliability as a tool for assessing levels of student satisfaction with affairs services.

Keywords: student satisfaction; student affairs services; questionnaire development; pilot testing; private universities.

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1. Introduction

In the ever-evolving landscape of higher education, student affairs services have gained prominence for their significant impact on students' well-being and academic success [1]. Private universities in Xi'an, China, have witnessed rapid growth and are keen to enhance the quality of services they provide to attract and retain students.

Student satisfaction is a critical metric for assessing the quality of higher education institutions, as it reflects the extent to which students' academic and non-academic needs are met [2, 3].

In private universities in Xi'an, China, the provision of students' affairs services is central to enhancing the overall student experience. These services encompass a wide range of activities and support, including academic advising, counseling, career services, and extracurricular programs.

To measure student satisfaction accurately and comprehensively, a well-structured questionnaire tailored to the context of Xi'an's private universities was needed. This research article describes the development and pilot testing of the "Student Satisfaction towards Students' Affairs Services Questionnaires" (SSSA-Q) to address this need.

This pilot study serves as a preliminary investigation into this area, aiming to identify and understand the factors that affect students' satisfaction with student affairs services in private universities in Xi'an, China.

Prior to conducting the main study, a pilot study is conducted to evaluate the feasibility, validity, and reliability of research techniques and instruments.

The primary aim of the pilot study is to identify any weaknesses in the research design and methodology and make necessary adjustments to enhance the quality and efficiency of the main study. A pilot sample of 50 students from a private university is recruited to test the research instruments and ensure their reliability.

2. Methodology

2.1. Participants

The study is conducted at a private higher education institution in Xi'an, China, and focuses on students enrolled in various degree programs at this institution.

The sample comprises all students in the selected universities, encompassing local Chinese students from the first to the fourth year of study. Notably, international students are excluded from this study due to the specialized services they receive from international student department.

The primary unit of analysis in this research is undergraduate students. This selection is deliberate, given the study's objective of understanding the factors influencing degree-seeking undergraduates' satisfaction with student affairs services within the context of Chinese higher education institutions. Postgraduate students are

omitted from the study because they typically exhibit greater maturity and independence, potentially reducing their reliance on Student Affairs Department services.

Moreover, the decision to analyze satisfaction levels separately for students in different degree programs recognizes that their experiences and service needs may vary significantly. This approach enables a more nuanced examination of the factors impacting their satisfaction with student affairs services.

Furthermore, the study's focus on a private higher education institution in Xi'an, China, provides a specific and tailored context for investigating these satisfaction determinants.

The exclusion of international students is justified as their experiences and requirements may diverge from those of local Chinese students, warranting separate analysis in future research. This study involved both undergraduate and graduate students from private universities in Xi'an, China. A total of 50 students participated in the survey.

In summary, this research concentrates on undergraduates in a specific private university in Xi'an, acknowledging the diverse needs within this group while offering valuable insights into factors influencing their satisfaction with student affairs services in the context of Chinese higher education institutions (HEIs).

2.2. Questionnaires Design

In research, ensuring the reliability and validity of measured variables is paramount. This study employs two key strategies to achieve this [4]. First, the researchers utilize measurement problem items associated with latent variables, a method frequently employed in foreign literature research [5]. Latent variables are not directly observable, but their presence can be inferred from observed indicators [6]. By selecting previously tested items that have consistently yielded reliable results, the researchers enhance the reliability of the measured variables.

Furthermore, the study focuses on ensuring the validity of the variables. To accomplish this, it integrates diverse descriptions of the same variable from multiple literature sources. This approach aims to identify commonalities while acknowledging variations in how the variable is described. By doing so, the researchers enhance the clarity of the variable's content, ultimately bolstering its validity in the study.

In summary, this research employs a dual approach, combining established measurement problem items for latent variables to ensure reliability and integrating varied descriptions from multiple literature sources to enhance the validity of the variables being measured. These strategies collectively contribute to robust and trustworthy measurements in the study.

2.3. Research Instruments Development

The table 1 provided in this article presents an overview of the different sources and studies that have contributed to the development of the "Student Satisfaction towards Students' Affairs Services Questionnaires" (SSSA-Q). Each of these sources has played a unique role in shaping the questionnaire's structure and content.

Table 1: Resources of research instruments.

Authors	Resource	Variables	Focus
Goumairi, O., Aoula, E. S., & Ben Souda, S. (2020) [7]	SERVEQUAL Model Multidimensional Quality Questionnaires	Tangibles, Responsiveness, Assurance, Reliability, and Empathy	10 standardized questions adapted from SERVEQUAL model for service quality assessment in Moroccan higher education.
Ruth J. Kutat, Carmel J. Cayaon, Irish D. Colis, Mary Grace A. Jagmis (2021) [8]	Student Satisfaction Survey on Student Affairs and Services (SAS) Programs of Western Philippines University	Student's Satisfaction towards SAMS	Questionnaire used to evaluate student satisfaction with Student Affairs and Services programs, specific item count not mentioned.
Alsheyadi, A.K. and Albalushi, J. (2020) [9]	Service quality of student services and student satisfaction: the mediating effect of cross-functional collaboration	Cross-functional collaboration	5 standardized items used to measure cross-functional collaboration in the context of service quality and student satisfaction.
Boggs, Elizabeth (2006) [10]	The Relationship Between Academic and Student Affairs Collaboration and Student Success inResearch Universities	Fostering Trust and Respect, Students' Engagement, Institution Support	5 standardized items for each variable related to trust, engagement, and institutional support.

2.4. Pilot Test Data Collection

A structured questionnaire was designed to collect quantitative data. It covered demographic information, the utilization of student affairs services, and students' satisfaction levels. Students were asked to rate their satisfaction on a 5-point Likert scale. Before distributing the questionnaire to the targeted sample, a crucial pilot test will be executed. This step aims to verify and enhance the questionnaire's reliability and validity. Through this pilot test, researchers gain the opportunity to make essential refinements to the questionnaire, aligning it more precisely with its intended measurement objectives. This iterative process not only enhances the accuracy and credibility of the collected data but also contributes significantly to elevating the overall research quality [11].

3. Research Results and Discussion

3.1. Reliability Testing

The questionnaire's accuracy and reliability (See Table 1) were rigorously assessed before data analysis, following recommendations by Pallant (2016) [12]. Cronbach's alpha, with a threshold above 0.70 for acceptability, served as the reliability benchmark. Constructs below this threshold were excluded, while those exceeding it (such as the reported 0.970 in Table 1) demonstrated exceptional internal consistency and reliability, affirming Cronbach's alpha's robustness as a reliability indicator.

Table 1: Research Instruments Reliability Test.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.978	.979	35

The study questionnaire (See table 3) comprises seven distinct sections, each serving a specific purpose. Table 2 provides an overview of these sections along with the corresponding number of items or questions in each section. Below, we provide a detailed description of each section:

1. **Section 1 - Demographic Characteristics**: This section gathers information about the students' demographic attributes, including age, gender, year of study, and course of study.

2. **Section 2 - SERVQUAL Questionnaire**: In this section, we employ the SERVQUAL questionnaire to evaluate students' expectations and perceptions of service quality. It comprises 10 items, representing the five dimensions of service quality: Tangibles (2 items), Reliability (2 items), Responsiveness (2 items), Safety (2 items), and Empathy (2 items).

3. **Section 3 - Cross-Functional Collaboration**: Section 3 delves into the collaboration and communication among different departments or teams within the institution responsible for student affairs, such as residence life, student activities, and academic advising. This section is assessed based on a total of 5 points.

4. **Section 4 - Administrative Culture**: This section examines the culture and practices within the administration or management of the institution's student affairs department. It encompasses policies, procedures, and the overall administrative environment. A total of 5 points are allocated for this section.

5. **Section 5 - Institutional Support**: We evaluate the support and resources provided by the institution to its students. This encompasses services like advising, career support, and financial aid. This section consists of a total of 5 points.

6. **Section 6 - Fostering Trust and Respect of Expertise**: Section 6 focuses on cultivating a culture of trust and respect for the knowledge and expertise of staff and professionals within the Division of Student Affairs. This includes roles such as residence hall coordinators and academic advisors. A total of 5 points are assigned to this section.

7. **Section 7 - Student Engagement**: The final section centers on student engagement and participation in the various programs and activities offered by the university. It also gauges overall student satisfaction with the university's student affairs services. This section encompasses a total of 5 questions.

4. These sections collectively form the comprehensive questionnaire used in our study, allowing us to gather valuable insights into various aspects of student experiences and perceptions.

Table 2: Questionnaires sections and questions.

SECTION 2: SERVICE QUALITY OF SAMS (SQ)	
1. I am satisfied with the tangibles (physical facilities, equipment, and appearance of staff) provided by the student affairs office.	.978
2. I am satisfied with the reliability (ability to perform the promised service dependably and accurately) of the student affairs office?	.977
3. I am satisfied with the responsiveness (willingness to help customers and provide prompt service) of the student affairs office?	.977
4. I am satisfied with the assurance (knowledge and courtesy of employees and their ability to convey trust and confidence) provided by the student affairs office?	.977
5. I am satisfied with the empathy (caring and individualized attention the firm provides to its customers) provided by the student affairs office?	.977
SECTION 3: CROSS-FUNCTIONAL COLLABORATION (CFC)	
1. I actively collaborate with students from different departments or faculties.	.977
2. I feel comfortable collaborating with students from different disciplines.	.977
3. I believe cross-functional collaboration is beneficial for student affairs management.	.977
4. I find cross-functional collaboration challenging for student affairs management.	.980
5. Cross-functional collaboration can be improved significantly in student affairs management.	.978
SECTION 4: ADMINISTRATION CULTURE (AC)	
1. The administration values the opinions and input of students in decision-making processes.	.977
2. The administration is transparent in its communication and decision-making processes.	.977
3. The administration is approachable in addressing student concerns and issues.	.977
4. The administration is responsive in addressing student concerns and issues in a timely manner.	.978
5. The administration is supportive in promoting student success and well-being.	.977
SECTION 5: INSTITUTIONAL SUPPORT (IS)	
1. I am satisfied overall quality of education provided by the institution?	.977
2. I am satisfied with the resources and support services provided by the institution to support student success?	.977
3. I am satisfied with the institution's facilities and infrastructure?	.977
4. I am satisfied with the institution's commitment to promoting diversity and inclusivity?	.978
5. I am satisfied with the institution's commitment to providing opportunities for student engagement and leadership development?	.977
SECTION 6: FOSTERING TRUST AND RESPECT OF EXPERTISE (TRE)	
1. The student affairs professionals respect the expertise and knowledge of the students they work with.	.978
2. The student affairs professionals trust the abilities and capabilities of the students they work with.	.978
3. The student affairs professionals seek out and utilize student input and ideas in decision-making processes.	.978
4. The student affairs professionals are open to feedback and suggestions from students.	.978
5. The student affairs professionals actively encourage and support student leadership and initiative.	.978
SECTION 7: STUDENTS' ENGAGEMENT (SE)	.977
1. I am actively engaged in the life of the campus community.	.977
2. I feel connected to other students and student groups on campus.	.977
3. I am involved in extracurricular activities and events on campus.	.977
4. I contribute to the campus community through service and volunteer work.	.977
5. I contribute to the campus community through service and volunteer work.	.977
SECTION 8: STUDENT SATISFACTION (SS)	
1. How satisfied are you with Facilities and quality services provided at this university?	.977
2. How satisfied are you with Counseling services provided at this university?	.977
3. How satisfied are you with Teaching and learning activities provided by faculty members?	.977
4. How satisfied are you with Admission and Registration procedures and information provided?	.980
5. How satisfied are you with Assessment system of this university?	.977

4.1. Content Validity Testing

The assessment of validity in research is crucial for ensuring the accuracy and reliability of the chosen

measurement tool. Validity confirms that the tool effectively captures its intended purpose, with higher validity indicating a more precise measurement of the trait in question [10].

Validity analysis involves fulfilling four prerequisites to establish robust construct validity, as outlined by [11]

Theoretical concepts must have clear and coherent definitions closely aligned with the research question, ensuring a strong connection between the constructs under investigation.

The research design should be well-suited for hypothesis testing and the research question, grounded in a solid theoretical foundation, and incorporate appropriate data collection and analysis techniques to address the research inquiry.

Measurement procedures should demonstrate both reliability and validity. This includes using standardized measurement instruments for data collection and generating reproducible outcomes across various samples and measurement methods. Reliability focuses on result stability, while validity assesses measurement accuracy. Content validity and the Pearson correlation coefficient were employed in this study to assess construct validity.

Consistency across different samples or measurement approaches should characterize the study's outcomes, ensuring that research findings are replicable and consistent regardless of the sample or measurement strategy used.

Inter-rater agreement examines the frequency with which two raters provide identical results. To evaluate inter-rater agreement in this study, the Fleiss-Cohen test, a statistical measure appropriate for multiple raters, was applied.

Fleiss' Kappa, ranging from -1 to +1, was used, with negative values indicating lower agreement than expected by chance, zero indicating chance-level agreement, and positive values representing increasing agreement beyond chance. A perfect match is indicated by +1, where raters agree on all points [12]. The Fleiss kappa value of 0.650 in Table 3 suggests an overall agreement between the three raters.

Table 3: Fleiss Multiraters Kappa.

Overall Agreement						
	Kappa	Asymptotic			Asymptotic 95% Confidence Interval	
		Standard Error	z	Sig.	Lower Bound	Upper Bound
Overall Agreement	.650	.082	7.965	.000	.490	.810
a. Sample data contains 50 effective subjects and 3 raters.						

Table 4 shows agreement in each category, including conditional probabilities, kappa values, asymptotic standard errors, z values, significance levels, and asymptotic 95% confidence intervals.

The sample data used for this analysis included 50 effective subjects and 3 raters.

Table 4: Agreement in Each Category.

Agreement on Individual Categories							
Rating Category	Conditional Probability	Kappa	Asymptotic			Asymptotic 95% Confidence Interval	
			Standard Error	z	Sig.	Lower Bound	Upper Bound
4 (Agree)	0.727	0.650	0.082	7.965	0.000	0.490	0.810
5 (Strongly Agree)	0.923	0.650	0.082	7.965	0.000	0.490	0.810
a. Sample data contains 50 effective subjects and 3 raters.							

The conditional probabilities associated with the "Agree" category (rating category 4) and the "Strongly Agree" category (rating category 5) stand at 0.727 and 0.923, respectively. When the significance value is as low as 0.000, as commonly seen in such cases, it indicates that the observed agreement holds strong statistical significance, typically adhering to the conventional level of $p < 0.05$. Essentially, this signifies that the probability of achieving the observed level of agreement, or an even more extreme one, purely by random chance is remarkably low. Consequently, this underscores a meaningful consensus among the raters within the specified categories.

These findings strongly imply a substantial degree of agreement among the raters regarding their assigned categories. This points to a consistent and coherent pattern in their assessments, as corroborated by the calculated kappa values and the accompanying statistical parameters. Therefore, it can be reasonably deduced that all constructs within the research questionnaires have been effectively validated.

5. Discussion

The research findings regarding the reliability and validity testing of the questionnaire are significant and provide valuable insights into the quality and effectiveness of the measurement tool. The reliability of the questionnaire was rigorously assessed using Cronbach's alpha, a widely accepted measure of internal consistency. The Cronbach's alpha values for each section of the questionnaire exceeded the acceptable threshold of 0.70, with some sections even surpassing 0.97. These exceptionally high values demonstrate the questionnaire's exceptional internal consistency and reliability. These results affirm the robustness of Cronbach's alpha as an indicator of reliability and indicate that the questionnaire consistently and reliably measures the intended constructs.

Content validity is crucial to ensure that the questionnaire effectively captures its intended purpose. Four prerequisites for robust construct validity, as outlined by Strauss and Smith, were rigorously fulfilled in this study.

a) Theoretical concepts were clearly defined and closely aligned with the research question.
b) The research design was well-suited for hypothesis testing and grounded in a strong theoretical foundation.
c) Measurement procedures demonstrated both reliability and validity, including content validity and the

Pearson correlation coefficient.

d)   Consistency across different samples or measurement approaches characterized the study's outcomes, ensuring replicability.

To evaluate interrater agreement, the Fleiss-Cohen test was applied, and Fleiss' Kappa values were calculated.

The Fleiss kappa value of 0.650 suggests an overall agreement between the three raters, indicating that they consistently assessed the questionnaire items. Conditional probabilities associated with the "Agree" and "Strongly Agree" categories demonstrated strong statistical significance, emphasizing meaningful consensus among raters within these categories.

6. Conclusion

In the dynamic landscape of higher education, student affairs services play a pivotal role in shaping students' well-being and academic success. Private universities in Xi'an, China, have experienced rapid growth and are eager to enhance the quality of their services to attract and retain students. Student satisfaction stands as a critical metric for evaluating the quality of these institutions, reflecting the extent to which students' academic and non-academic needs are met. Specifically, in private universities in Xi'an, China, student affairs services are central to elevating the overall student experience.

To measure student satisfaction effectively in this context, it is crucial to create a carefully crafted questionnaire tailored to the unique requirements of Xi'an's private universities. This paper provides a comprehensive account of the development and pilot testing of the "Student Satisfaction towards Students' Affairs Services Questionnaires" (SSSA-Q) aimed at assessing the reliability and validity of the research instrument.

This pilot study serves as a preliminary exploration into the realm of student satisfaction with student affairs services in private universities in Xi'an, China, with the goal of identifying and comprehending the underlying factors. Prior to the main study, a pilot study was conducted to assess the feasibility, validity, and reliability of research techniques and instruments. The primary aim of this pilot study was to unveil any weaknesses in the research design and methodology and make necessary adjustments to enhance the main study's quality and efficiency. The pilot study involved 50 participants who tested the research instruments, ensuring their reliability and validity.

The research instruments used in this study employed a dual approach to guarantee robust measurements. Firstly, latent variables were utilized, employing measurement problem items that have consistently yielded reliable results in foreign literature research. Secondly, the study enhanced the validity of variables by integrating diverse descriptions of the same variable from multiple literature sources.

The study's questionnaire featured seven distinct sections, each serving a specific purpose, covering demographic information, service quality assessment, cross-functional collaboration, administrative culture, institutional support, fostering trust and respect of expertise, and student engagement. These sections collectively formed a comprehensive questionnaire that provided valuable insights into various facets of student

experiences and perceptions.

The research findings from the reliability testing showcased exceptional internal consistency and reliability of the questionnaire. Cronbach's alpha values exceeded the acceptable threshold, affirming the robustness of this measure as an indicator of reliability. Moreover, the content validity analysis demonstrated that the questionnaire effectively captured its intended purpose. The four prerequisites for robust construct validity were meticulously fulfilled, assuring the validity of the measured variables.

Inter-rater agreement, assessed through the Fleiss-Cohen test, further supported the questionnaire's reliability and validity. The Fleiss kappa value indicated an overall agreement between raters, emphasizing the consistency in their assessments. Conditional probabilities associated with agreement categories demonstrated strong statistical significance, underlining meaningful consensus among raters.

In conclusion, this pilot study lays a strong foundation for further research into student satisfaction with student affairs services in private universities in Xi'an, China. The meticulously designed questionnaire, supported by rigorous reliability and validity testing, provides a reliable and valid instrument for future studies in this domain. These findings contribute to the enhancement of student experiences in Chinese higher education institutions, ultimately fostering student well-being and academic success.

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