

Research Article

Division III: Education, Language, Social Sciences, and Humanities

Understanding Equity in University Admissions: A Comparative Analysis of Applicant and Qualifier Data

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Abstract

This study examined socioeconomic and geographic associations with university admission outcomes using institutional applicant and qualifier data for AY 2026-2027. A quantitative descriptive-correlational approach was used to profile applicants, compare qualification rates, test bivariate associations, and identify underrepresented groups. Results showed that applicants were predominantly from low-income households; income bracket was not significantly associated with qualification status, and observed differences in qualification rates were minimal. Academic preparation indicators, particularly the senior high school strand and GPA band, showed clearer variation in qualification outcomes. Geographic patterns revealed strong concentration in Region III, with limited participation from other regions, suggesting that equity concerns began at the application and information-access stage. Vulnerable socioeconomic groups showed relatively high qualification rates, but aggregate data limited interpretation. Because the available data were marginal summaries rather than applicant-level records, the study did not estimate logistic regression models or claim independent predictors. The study concludes that admissions equity is multidimensional and requires applicant-level monitoring, targeted outreach, accessible admissions communication, and preparation support for underrepresented geographic and academic groups in future admission cycles and program planning.

Keywords: university admissions; admissions equity; socioeconomic status; geographic access; qualification outcomes; institutional data

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Introduction

Equity in university admissions matters now because access to higher education remains one of the most important routes to social mobility, professional opportunity, and long-term economic security. Recent evidence shows that admissions systems do not operate on academic merit alone; applicants' family income, school context, available guidance, distance from opportunity, and location-based disadvantage can shape who applies, who is admitted, and who eventually enrolls. Chetty et al. (2026), for example, found that students from the highest-income families had admissions advantages at highly selective private colleges even when compared with students who had similar test scores. Recent studies also show that access barriers are changing: AI-supported application writing may benefit some applicants while creating new equity concerns for lower-income students (Lee et al., 2026), and admissions

communication itself can be difficult for students without strong college-going support (Taylor et al., 2022).

Despite this growing concern, the relationship between socioeconomic background, geography, and admission outcomes remains unclear and scattered. Some studies focus on income, school type, family background, or application materials; others focus on spatial inequality, rural access, transportation, or regional opportunity. However, these factors are often examined separately rather than together. Geographic inequality is especially underexplained in admissions research because location is not only a matter of distance from campus but also a proxy for uneven access to quality schooling, college counseling, testing centers, internet access, transportation, and social networks. Recent spatial-inequality literature emphasizes the value of mapping and modeling geographic disadvantage, yet much of it examines urban services or general access rather than university admissions decisions (Gorjian, 2025).

Prior reviews and reports have helped establish that higher education access is unequal, but they have not fully mapped how socioeconomic and geographic variables operate within institutional admissions data. Global and national policy reports discuss widening participation, underrepresentation, and the need for inclusive higher education systems (Australian Government Department of Education, 2024; Higher Education Authority, 2022; OECD, 2024; UNESCO, 2022). However, these broader reviews often stop at participation, enrollment, or policy targets. They rarely integrate applicant socioeconomic characteristics, geographic origin, admission status, and program-level outcomes in one institutional analysis. In the Philippine context, this gap matters because public higher education policy emphasizes wider participation while universities still need local evidence on who applies, who qualifies, and which groups remain weakly represented.

A quantitative study is suitable for this research because the problem involves measurable patterns, group differences, and statistical associations. Institutional admissions data can show the socioeconomic and geographic profile of applicants, compare qualification rates across groups, and identify whether observed differences are statistically significant. Quantitative methods such as descriptive statistics, cross-tabulation, chi-square tests, and effect-size measures can help determine whether inequalities are isolated or systematic at the aggregate level. This approach is especially useful because it moves the discussion from general claims about disadvantage to evidence based on actual applicant and qualifier records. It can also reveal underserved or underrepresented groups that may not be visible when admissions are evaluated only through overall totals.

Therefore, this study examines how socioeconomic and geographic factors are associated with equity in university admissions based on institutional admission data. Specifically, it describes the socioeconomic and geographic characteristics of applicants, examines how admission outcomes vary across groups, determines which socioeconomic and geographic factors are significantly associated with qualification status, clarifies the limits of estimating joint effects from aggregate data, and identifies applicant groups that appear underserved or underrepresented. By integrating socioeconomic and geographic evidence in one descriptive-correlational analysis, the study aims to provide a clearer basis for admissions policy, outreach planning, and equity-focused institutional decision-making.

Review of Related Literature

Socioeconomic Inequality in University Admissions

Recent literature shows that socioeconomic background remains a major factor in higher education access and admissions equity. Socioeconomic status affects applicants' academic preparation, access to admissions information, availability of guidance counselors, test preparation, essay support, digital tools, and confidence in applying to selective programs. UNESCO (2022) emphasized that higher education systems must address social inequality by improving access for disadvantaged learners. Similarly, the Higher Education Authority (2022)

identified socioeconomically disadvantaged students as a priority group in equity-of-access policies. In the Philippines, Republic Act No. 10931, or the Universal Access to Quality Tertiary Education Act, explicitly frames quality tertiary education as a right and directs the State to increase participation across socioeconomic classes and give priority to academically able students from poor families (Republic of the Philippines, 2017).

Empirical studies also show that admissions outcomes may reflect socioeconomic privilege. Chetty et al. (2026) found that applicants from the highest-income families had admissions advantages in highly selective private colleges, even when compared with applicants who had similar standardized test scores. Their findings suggest that admissions systems may reward advantages associated with family income, school background, legacy status, extracurricular opportunities, and non-academic ratings. Lee et al. (2026) further showed that new admissions-related tools, such as generative AI for application essays, may affect applicants differently depending on socioeconomic status.

This theme is directly related to the present study because it supports the need to describe applicants' socioeconomic characteristics and determine whether socioeconomic variables are significantly associated with admission outcomes.

Geographic Inequality and Unequal Access to Higher Education Opportunities

Geographic location is another important factor in admissions equity. Applicants from rural, remote, or underserved areas may experience barriers linked to distance from universities, limited school resources, fewer admissions guidance services, transportation costs, internet access, and uneven exposure to college-going opportunities. Meyer et al. (2023) found that access to emerging higher education opportunities was unevenly distributed by institutional and geographic location, with low-income and rural students less likely to benefit from expanding academic pathways.

Recent spatial inequality literature also highlights the importance of analyzing location-based disadvantage. Gorjian (2025) emphasized that geographic and statistical methods can reveal unequal access to resources, services, and opportunities. In the context of university admissions, this suggests that applicants' region, province, municipality, school location, distance from campus, or urban-rural classification may help identify admission patterns that are not visible in overall admission totals.

This theme supports the present study's objective of examining geographic characteristics of applicants, determining whether admission outcomes vary across locations, and identifying which geographic factors are significantly associated with qualification status.

Integrated Quantitative Analysis of Admissions Equity and Underrepresented Groups

Recent studies suggest that socioeconomic and geographic barriers should not be examined separately because disadvantage often overlaps. Students from remote areas may also come from lower-income households, attend less-resourced schools, or have less access to admissions preparation. The Australian Government Department of Education (2024) reported continuing underrepresentation of students from low socioeconomic, regional, and remote backgrounds in higher education. Moores (2024) also argued that widening participation efforts may be ineffective when institutions treat disadvantage as isolated categories rather than as interacting barriers.

Quantitative analysis is useful for examining these patterns. Lee et al. (2024) showed that admissions decision-support models and policy choices can affect which applicants are prioritized, while Low and Kalender (2024) demonstrated the value of multivariable modeling in identifying predictors of educational outcomes. In the Philippine setting, Esquivel and Esquivel (2020) used admissions-office data and logistic regression to model the likelihood that admitted students would enroll, showing the practical value of applicant-level institutional data for higher education planning. These studies support the use of institutional admissions data to compare groups, test associations, and, when applicant-level records are available, estimate

independent predictors.

This theme connects directly to the present study's goal of examining socioeconomic and geographic patterns in university admission outcomes and identifying applicant groups that appear underserved or underrepresented.

Methodology

Research Design

This study used a quantitative descriptive-correlational research design to examine how socioeconomic and geographic factors are associated with equity in university admissions. The descriptive component was used to present the socioeconomic and geographic characteristics of university applicants, while the correlational component tested whether admission outcomes differed significantly across available applicant groups.

This design was appropriate because the study analyzed measurable institutional admission data rather than personal narratives or perceptions. It allowed the researcher to compare admission outcomes across applicant groups, identify patterns of inequality, and describe associations that can guide admissions policy and future data collection.

Source of Data

The study used secondary institutional admission data obtained from the university admissions office. The available files consisted of aggregate applicant and qualifier summaries for the admission cycle or academic year covered by the study. These records included admission outcomes, socioeconomic indicators, and geographic information in grouped form.

Socioeconomic variables included family income bracket and available vulnerability indicators such as 4Ps membership, first-generation status, solo-parent family background, PWD status, orphan status, and IP status. Geographic variables included region and other available location-based summaries. The main outcome variable was qualification status, reported as the number and percentage of applicants who qualified within each group.

Only records officially provided by the university were analyzed. Personally identifiable information such as names, applicant numbers, addresses, contact details, and other direct identifiers was removed or masked before analysis. The final dataset contained only the variables needed to answer the research objectives.

Data Analysis

The data were analyzed using appropriate quantitative statistical techniques. First, descriptive statistics such as frequencies and percentages were used to describe the socioeconomic and geographic characteristics of applicants. These results answered the objective concerning the profile of university applicants.

Second, cross-tabulations were used to compare admission outcomes across socioeconomic, academic preparation, and geographic groups. Chi-square tests of independence were applied where the available aggregate counts met the requirements for testing whether admission outcomes differed significantly across groups. Cramér's V was reported to describe the strength of statistically significant associations.

Third, group qualification rates were compared to identify socioeconomic and geographic categories with higher or lower observed admission outcomes. Because the available files were aggregate summaries rather than applicant-level records, the analysis did not estimate binary or multinomial logistic regression models and did not identify independent predictors of qualification status.

Fourth, the study assessed whether the joint influence of socioeconomic and geographic variables could be estimated from the available data. Since the data were marginal rather than cross-classified or individual-level records, the study treated joint explanation as an analytic

limitation and recommended applicant-level modeling for future research.

Finally, underserved or underrepresented applicant groups were identified by comparing the proportion of applicants and admitted students across socioeconomic and geographic categories. Groups with consistently lower admission rates or lower representation among admitted students were considered underserved or underrepresented, subject to the interpretation of the available data.

Ethical Considerations

This study observed ethical standards in the use of institutional data. The research was granted ethics clearance by the Bulacan State University Ethics Review Committee under the code BulSUERC-2026-0317-01.

Since the study used secondary institutional data, no direct interaction with applicants was conducted. The privacy and confidentiality of all applicants were protected throughout the study. Personal identifiers were removed or anonymized before data analysis, and only aggregated results were reported. No individual applicant was named or made identifiable in the final manuscript.

The data were used solely for research purposes and were accessed only by authorized members of the research team. Electronic files were stored in password-protected devices or secure storage systems, and any printed materials, if used, were kept in a secure location. After the completion of the study, data were retained or disposed of according to university policy and the conditions stated in the ethics clearance.

The researcher also ensured that the interpretation of findings was fair and responsible. Results were not used to stigmatize any socioeconomic or geographic group. Instead, the findings were presented to support evidence-based improvements in admissions policy, outreach programs, and equity-focused institutional planning.

Results

The socioeconomic and geographic profile of university applicants is presented to provide an overview of the characteristics of individuals seeking admission. The distribution of applicants across selected demographic, educational, and geographic variables establishes the baseline for understanding the applicant population's composition. This profile serves as the foundation for subsequent analyses of admission outcomes and the extent of equity in the university admissions process.

1. Socioeconomic characteristics of university applicants

Table 1 shows that most applicants came from low-income households (19,424; 63.92%), followed by middle-income (33.36%) and high-income households (2.72%), indicating a largely economically vulnerable applicant pool.

Table 1. Applicants and qualifiers by income bracket

Category	Count Applicants	Applicant Share	Count Qualified	Qualification Rate	Representation Ratio
High Income	828	2.72%	304	36.71%	105.24%
Low Income	19,424	63.92%	6,803	35.02%	100.40%
Middle Income	10,136	33.36%	3,494	34.47%	98.81%

2. Admission outcomes across geographic groups, academic strands, and performance

This section compares qualification rates and representation ratios across educational and geographic groups to identify patterns of overrepresentation and underrepresentation in admission outcomes.

Table 2 shows that the applicant pool was highly concentrated in Central Luzon,

particularly in Region III (29,732 applicants), while applicants from other regions accounted for only a small share of the total.

Table 2. Top regions by applicant count

Category	Count Applicants	Applicant Share	Count Qualified	Qualification Rate	Representation Ratio
Region III (Central Luzon)	29,732	97.84%	10,437	35.10%	100.63%
National Capital Region (NCR)	535	1.76%	136	25.42%	72.87%
Region IV-A (Calabarzon)	55	0.18%	17	30.91%	88.60%
Region I (Ilocos Region)	17	0.06%	2	11.76%	33.72%
Region IV-B (MIMAROPA)	12	0.04%	2	16.67%	47.78%
Region V (Bicol Region)	11	0.04%	2	18.18%	52.12%
Region VI (Western Visayas)	6	0.02%	2	33.33%	95.55%
Region II (Cagayan Valley)	5	0.02%	1	20.00%	57.33%
Region XIII (Caraga)	5	0.02%	1	20.00%	57.33%
Region VI (Western Visayas)I	4	0.01%	0	0.00%	0.00%
Cordillera Administrative Region (CAR)	2	0.01%	0	0.00%	0.00%
Region VI (Western Visayas)II	2	0.01%	0	0.00%	0.00%

Table 3 shows that the admission outcomes varied across senior high school strands. The Sports Track, TVL-Industrial Arts, and Arts and Design Track had the highest qualification rates and representation ratios, while GAS, STEM, TVL-Home Economics, and TVL-ICT fell below the institutional average of 34.89%. ABM and HUMSS, the largest applicant groups, performed above the average but with more moderate representation.

Table 3. Admission outcomes by senior high school strand

Category	Count Applicants	Count Qualified	Qualification Rate	Representation Ratio
Sports Track	35	30	85.71%	245.70%
(TVL) - Industrial Arts	280	195	69.64%	199.63%
Arts and Design Track	160	101	63.12%	180.95%
ABM (Accountancy, Business, Management)	5,240	2,114	40.34%	115.65%
HUMSS (Humanities and Social Sciences)	5,613	2,180	38.84%	111.33%
Grand Total	30,388	10,601	34.89%	100.00%
GAS (General Academic Strand)	1,376	450	32.70%	93.75%
STEM (Science, Technology, Engineering, Mathematics)	12,080	3,822	31.64%	90.69%
(TVL) - Home Economics	3,123	956	30.61%	87.75%

Category	Count Applicants	Count Qualified	Qualification Rate	Representation Ratio
(TVL) - Information and Communications Technology (ICT)	2,481	753	30.35%	87.00%

Table 4 shows that the Higher GPA bands generally had higher qualification rates, suggesting an association between prior academic performance and admission success. This pattern is descriptive only because individual examination scores and other covariates were not available.

Table 4. Admission outcomes by high school GPA band

Category	Count Applicants	Count Qualified	Qualification Rate	Representation Ratio
75–79	141	59	41.84%	119.95%
80–84	2,032	824	40.55%	116.24%
85–89	8,312	2,369	28.50%	81.70%
90–94	15,205	5,255	34.56%	99.07%
95–100	4,698	2,094	44.57%	127.77%

3. Socioeconomic factors associated with admission outcomes

This section examines whether selected socioeconomic characteristics were associated with qualification status.

Table 5 illustrates that the income bracket was not significantly associated with qualification status, $\chi^2(2) = 2.15$, $p = .341$, with a very small effect size (Cramér's $V = 0.008$). Other socioeconomic indicators were non-mutually exclusive and were therefore summarized descriptively.

Table 5. Statistical association between applicant characteristics and qualification status

Factor	χ^2	df	p	Cramér's V
Income bracket	2.15	2	.341	0.008
Gender	107.04	1	< .001	0.059
SHS strand	458.73	9	< .001	0.087
Age group	6.59	3	.086	0.015
High school GPA band	375.64	4	< .001	0.111

Table 6 manifests that the several vulnerable groups, including 4Ps and PWD applicants, showed qualification rates above the overall rate. The complete qualification rate for IP applicants should be interpreted cautiously because the group included only 30 applicants. These descriptive patterns require individual-level modeling before stronger conclusions can be drawn.

Table 6. Admission outcomes for socioeconomic indicator groups

Category	Count Applicants	Count Qualified	Qualification Rate	Representation Ratio
1st Generation College Student in the family	1,801	921	51.14%	146.59%
4 P's	1,743	849	48.71%	139.63%
Indigenous Peoples (IP) status	30	30	100.00%	286.65%
Orphan	35	17	48.57%	139.23%
Person with Disability (PWD)	110	55	50.00%	143.33%
Solo-parent family	1,719	888	51.66%	148.08%

4. Geographic factors associated with admission outcomes

Geographic origin was analyzed at the regional level and then within Region III, the university's primary applicant and qualifier catchment.

Table 7 shows that the region was significantly associated with qualification status, $\chi^2(13) = 36.88$, $p < .001$, but the effect size was small (Cramér's $V = 0.035$). Region III accounted for nearly all applicants and qualifiers, with a qualification rate of 35.10%.

Table 7. Regional admission outcomes

Category	Count Applicants	Count Qualified	Qualification Rate	Representation Ratio
Region III (Central Luzon)	29,732	10,437	35.10%	100.63%
National Capital Region (NCR)	535	136	25.42%	72.87%
Region IV-A (Calabarzon)	55	17	30.91%	88.60%
Region I (Ilocos Region)	17	2	11.76%	33.72%
Region IV-B (Mimaropa)	12	2	16.67%	47.78%
Region V (Bicol Region)	11	2	18.18%	52.12%
Region VI (Western Visayas)	6	2	33.33%	95.55%
Region II (Cagayan Valley)	5	1	20.00%	57.33%
Region XIII (Caraga)	5	1	20.00%	57.33%
Region VI (Western Visayas)I	4	0	0.00%	0.00%
Cordillera	2	0	0.00%	0.00%
Administrative Region (CAR)				
Region VI (Western Visayas)II	2	0	0.00%	0.00%
Region XI (Davao Region)	1	1	100.00%	286.65%
Region XII (Soccsksargen)	1	0	0.00%	0.00%

Within Region III, qualified applicants were concentrated in Bulacan (9,877; 94.64%), followed by Pampanga (535; 5.13%). Other Central Luzon provinces contributed only small numbers, suggesting that the university's effective reach was strongest in Bulacan and nearby

localities.

Because the university is located in Bulacan, the locality-level distribution provides a closer view of participation within its main service area.

Meanwhile, Table 8 presents the qualified applicants from all Bulacan localities, which were unevenly distributed. The City of San Jose del Monte, City of Malolos, Hagonoy, and Santa Maria contributed the largest shares, while Obando and Doña Remedios Trinidad contributed the fewest.

Table 8. Bulacan qualified-applicant distribution by locality

Category	Count Qualified	Share of Bulacan Qualifiers
City of San Jose del Monte	1,565	15.84%
City of Malolos (Capital)	1,008	10.21%
Hagonoy	768	7.78%
Santa Maria	678	6.86%
Bulacan	470	4.76%
Marilao	461	4.67%
Baliuag	427	4.32%
Guiguinto	425	4.30%
Bustos	421	4.26%
Plaridel	399	4.04%
San Rafael	371	3.76%
Calumpit	366	3.71%
City of Meycauayan	341	3.45%
Bocaue	280	2.83%
Pulilan	274	2.77%
Pandi	270	2.73%
Angat	265	2.68%
Paombong	256	2.59%
Balagtas (Bigaa)	239	2.42%
Norzagaray	228	2.31%
San Miguel	166	1.68%
San Ildefonso	139	1.41%
Obando	40	0.40%
Doña Remedios Trinidad	20	0.20%
Total	9,877	100.00%

5. Analytic limits in jointly explaining socioeconomic and geographic inequalities

The joint explanatory power of socioeconomic and geographic variables could not be estimated because the available files were marginal summaries rather than cross-classified or individual-level records. Thus, the study did not identify independent predictors or combined effects. Future analysis should use applicant-level records and binary logistic regression to jointly examine the effects of income, vulnerability indicators, geography, GPA, strand, program choice, and related variables.

6. Underserved or underrepresented applicant groups

Underserved or underrepresented groups were identified through low participation in the applicant pool and lower representation among qualifiers than among applicants.

Table 9 confirms that Region III qualification was concentrated in Bulacan, with much smaller contributions from other Central Luzon provinces. Within Bulacan, the table distinguishes leading localities from low-count localities, showing why equity monitoring

should extend below the regional level.

Table 9. Region III qualified applicants by province, leading localities, and low-count Bulacan localities

Province	Qualified applicants	Share of Region III qualifiers	Localities represented	Leading and low-count localities
Bulacan	9,877	94.64%	24	Leading localities: City of San Jose del Monte (1,565); City of Malolos (1,008); Hagonoy (768); Santa Maria (678); Bulacan (470). Very low-count Bulacan localities: Doña Remedios Trinidad (20); Obando (40); San Ildefonso (139); San Miguel (166); Norzagaray (228); Balagtas (Bigaa) (239); Paombong (256); Angat (265); Pandi (270); Pulilan (274).
Pampanga	535	5.13%	15	Apalit (177); Candaba (130); Masantol (58); San Luis (47); Macabebe (45)
Nueva Ecija	11	0.11%	7	City of Gapan (4); Quezon (2); five localities with one qualifier each
Tarlac	7	0.07%	5	Camiling (2); Victoria (2); Capas, City of Tarlac, and Santa Ignacia (1 each)
Zambales	4	0.04%	4	Castillejos, Olongapo City, San Antonio, and Santa Cruz (1 each)
Aurora	2	0.02%	2	Casiguran (1); Dipaculao (1)
Bataan	1	0.01%	1	Hermosa (1)
Total	10,437	100.00%	58	Region III qualified applicants

Table 10 shows that the main geographic underrepresentation issue was the uneven distribution of qualified applicants within Region III. Low-count Central Luzon provinces and selected Bulacan localities may benefit from targeted admissions communication, school partnerships, examination preparation, and application support.

Table 10. Non-geographic groups with lower qualifier representation

Domain	Category	Count Applicants	Count Qualified	Qualification Rate	Representation Ratio
GPA band	85–89	8,312	2,369	28.50%	81.70%
SHS strand	(TVL) - Information and Communications Technology (ICT)	2,481	753	30.35%	87.00%
SHS strand	(TVL) - Home Economics	3,123	956	30.61%	87.75%
SHS strand	STEM (Science, Technology, Engineering, Mathematics)	12,080	3,822	31.64%	90.69%
Gender	Female	17,484	5,674	32.45%	93.03%
SHS strand	GAS (General Academic Strand)	1,376	450	32.70%	93.75%

Discussion

Applicant profile and socioeconomic admission patterns

The findings indicated that admission equity in the university was shaped less by a simple income-based qualification gap than by the interaction of participation, academic preparation, and geographic reach. The applicant pool was predominantly low-income, and the income-based qualification rates differed only slightly across brackets. Income bracket was not significantly associated with qualification status in the aggregate test, $\chi^2(2) = 2.15$, $p = .341$, and the effect size was very small. These findings suggested that economically vulnerable applicants were not being strongly filtered out at the qualification stage in the available data. At the same time, equity could not be inferred from qualification rates alone. International evidence indicates that socioeconomic advantage often operates before formal selection, through access to college information, preparation, application support, school resources, and confidence in navigating admissions systems (Chetty et al., 2023; OECD, 2024; Taylor et al., 2022). Thus, the strong presence of low-income applicants was encouraging, but it should be interpreted together with the quality of preparation, program choice, and actual enrollment after qualification.

The small observed differences by income bracket contrasted with findings from highly selective private institutions, where high-income applicants may receive substantial admissions advantages even after accounting for comparable test scores (Chetty et al., 2023). This difference may have reflected the public and regional character of the present admission context, where the university appeared to serve a large low-income applicant population. However, the slightly higher qualification rate among high-income applicants still deserved monitoring because even small advantages can become meaningful when they accumulate across preparation, application, qualification, program placement, and enrollment. Equity monitoring should therefore move beyond whether applicants qualify and examine whether low-income, first-generation, 4Ps, PWD, IP, and other vulnerable applicants are also represented in competitive programs and are supported through enrollment and retention.

Academic preparation and admission outcomes

Academic preparation indicators showed more visible differences than income. Qualification rates varied by senior high school strand and high school GPA band, suggesting that prior academic pathways and preparation were closely related to admission outcomes. This pattern is consistent with quantitative education studies showing that prior attainment and sociodemographic characteristics can jointly predict later educational outcomes when modeled at the individual level (Low & Kalender, 2024). In the present study, however, the GPA pattern was not perfectly linear; for example, the 85-89 band had a lower qualification rate than both lower and higher bands. This may have reflected differences in grading practices across schools, strand-test alignment, program choices, or the limits of using grouped GPA data. For publication, this finding should be interpreted cautiously and should be tested with individual-level records that include entrance examination scores, school type, strand, program preference, and other preparation indicators.

Geographic participation and admission outcomes

The most policy-relevant geographic finding was concentration within the university's main catchment area. Nearly all applicants and qualifiers came from Region III, but the Region III qualifier distribution was not evenly spread across Central Luzon. Bulacan supplied 9,877 of the 10,437 Region III qualified applicants, while Pampanga supplied 535 and the remaining provinces supplied only small numbers. This pattern pointed less to a broad regional performance gap and more to an institutional reach issue within Region III itself: qualified-applicant representation was strongest in Bulacan municipalities and much weaker in Aurora,

Bataan, Nueva Ecija, Tarlac, and Zambales. This interpretation is supported by studies showing that educational opportunities are unevenly distributed by location and that low-income and rural students may be less likely to benefit from emerging or specialized higher education pathways (Meyer et al., 2023). For the university, this means that equity interventions should include province- and municipality-level outreach within Central Luzon, especially in low-count Region III localities.

Underserved and underrepresented groups

The descriptive results for 4Ps, first-generation, solo-parent family, PWD, orphan, and IP applicants were notable, as several vulnerable groups had qualification rates above the overall rate. This finding challenged the assumption that disadvantaged status automatically corresponds to lower admission success. It may have indicated resilience, strong motivation, targeted preparation, or the self-selection of academically prepared students from vulnerable groups into the applicant pool. However, these categories were not mutually exclusive and were analyzed using aggregate counts, so their effects could not be separated from GPA, strand, location, sex, age, or program choice. Small group sizes, especially for IP applicants, also made rates unstable. The result should therefore be framed as a signal for further investigation, not as evidence that vulnerability has no effect on admissions equity.

Limits of joint explanation

The inability to estimate a joint model was a major methodological implication of the study. Because the available files were marginal summaries rather than cross-classified or applicant-level records, the analysis could not determine whether socioeconomic and geographic variables were independently associated with qualification status, with academic preparation and program choice held constant. This limitation mattered because the disadvantage that often overlaps against applicants from distant localities may also come from lower-income households, attend less-resourced schools, have weaker access to admissions guidance, or select programs with different levels of competition. Applicant-level studies using logistic regression and related predictive models have identified predictors of admission or enrollment outcomes and show the value of modeling multiple student and contextual variables together (Esquivel & Esquivel, 2020; Low & Kalender, 2024). Future analysis should therefore use binary logistic regression or multinomial logistic regression with applicant-level records, report odds ratios and marginal effects, and include interaction terms where theoretically justified.

Implications

The findings had practical implications for admissions policy and institutional planning. First, the university should maintain socioeconomic monitoring because the low-income majority in the applicant pool represents a core public-service constituency. Second, the university should strengthen geographic outreach within Region III, especially in Central Luzon provinces and municipalities with very limited qualified-applicant counts despite being inside the regional catchment. Third, strand- and GPA-related gaps suggested the need for entrance examination review programs, bridge courses, clearer program advising, and stronger coordination with senior high schools. Fourth, admissions communication should be reviewed for readability and accessibility, since complex admissions instructions can become an avoidable barrier for low-income, first-generation, and language-minority applicants (Taylor et al., 2022). These interventions would shift the equity agenda from passive selection to active opportunity-building.

Overall, the study contributed to admissions equity research by showing that institutional data revealed different layers of inequality: who applied, who qualified, which groups were underrepresented, and where data remained insufficient for causal or predictive claims. The results suggested that the university attracted a large population of low-income

applicants, but that geographic participation and academic preparation remained important equity concerns. The next step toward publication-quality evidence is to build an applicant-level dataset linking socioeconomic indicators, geographic origin, school preparation, program choice, examination performance, qualification status, and enrollment. Such a dataset would allow the university to distinguish between access barriers, preparation gaps, and selection effects, thereby supporting more precise and evidence-based admissions reforms.

Conclusion

This study found that the university served a largely low-income applicant population and that income bracket was not significantly associated with qualification status in the available aggregate data. Thus, income-based exclusion was not the most visible equity issue at the qualification stage.

Differences were more apparent across academic preparation indicators, particularly the senior high school strand and the GPA band. These results suggest that admission outcomes may reflect preparation, curriculum alignment, examination readiness, and program choice.

Geographic participation was the clearest equity concern. Applicants and qualifiers were concentrated in Region III, especially in Bulacan, while several Central Luzon provinces and Bulacan localities had few qualified applicants. Admission equity, therefore, involves not only selection fairness but also equitable opportunity to learn about, prepare for, apply to, and complete the admissions process.

Overall, the findings provide a baseline for equity-focused admissions monitoring. Stronger conclusions will require applicant-level data that can support multivariable modeling and more precise identification of underserved groups.

Recommendations

Develop an applicant-level admissions database that links qualification status to income, vulnerability indicators, strand, GPA, sex, age, school type, municipality or region, program choice, and other preparation variables.

Expand outreach and application support within Region III, especially in Central Luzon provinces and municipalities with very low qualified applicant counts. Activities may include school visits, online orientations, local education partnerships, and step-by-step guidance on requirements, deadlines, program selection, and preparation for the entrance examination. Provide targeted academic preparation support for applicant groups with lower qualification rates, including review sessions, bridge programs, diagnostic practice tests, and program-fit advising.

Simplify admissions communication by using plain language and distributing requirements, schedules, and procedures through the channels students, parents, teachers, and guidance counselors use.

Continue monitoring vulnerable socioeconomic groups beyond qualification by examining their representation in competitive programs, as well as their enrollment, retention, and completion.

Future research should use individual-level records with examination scores, school resources, distance from campus, urban-rural classification, program quota, locality, and final enrollment decision. Qualitative follow-up may also clarify barriers faced by applicants from low-participation Region III localities.

References

- Australian Government Department of Education. (2024). Australian Universities Accord: Final report. <https://www.education.gov.au/australian-universities-accord/resources/final-report>
- Chetty, R., Deming, D. J., & Friedman, J. N. (2023). Diversifying society's leaders? The determinants and causal effects of admission to highly selective private colleges (NBER Working Paper No. 31492). National Bureau of Economic Research. <https://doi.org/10.3386/w31492>

- Chetty, R., Deming, D. J., & Friedman, J. N. (2026). Diversifying society's leaders? The determinants and causal effects of admission to highly selective private colleges. *The Quarterly Journal of Economics*. <https://opportunityinsights.org/paper/collegeadmissions/>
- Esquivel, J. A., & Esquivel, J. A. (2020). Using a binary classification model to predict the likelihood of enrolment to the undergraduate program of a Philippine university. arXiv. <https://arxiv.org/abs/2010.15601>
- Gorjian, M. (2025). *Statistical perspectives on urban inequality: A systematic review of GIS-based methodologies and applications* [Preprint]. arXiv. <https://arxiv.org/abs/2508.08296>
- Higher Education Authority. (2022). *National access plan: A strategic action plan for equity of access, participation and success in higher education 2022–2028*. <https://hea.ie/policy/access-policy/national-access-plan-2022-2028/>
- Lee, J., Borchers, C., Alvero, A. J., Joachims, T., & Kizilcec, R. F. (2026). *The digital divide in generative AI: Evidence from large language model use in college admissions essays* [Preprint]. arXiv. <https://arxiv.org/abs/2602.17791>
- Lee, J., Harvey, E., Zhou, J., Garg, N., Joachims, T., & Kizilcec, R. F. (2024). *Algorithms for college admissions decision support: Impacts of policy change and inherent variability* [Preprint]. arXiv. <https://arxiv.org/abs/2407.11199>
- Low, A. M., & Kalender, Z. Y. (2024). Predictors and socio-demographic disparities in STEM degree outcomes: A UK longitudinal study using hierarchical logistic regression. arXiv. <https://arxiv.org/abs/2408.05853>
- Meyer, J. C., Passante, G., & Wilcox, B. R. (2023). Disparities in access to US quantum information education. arXiv. <https://arxiv.org/abs/2309.08629>
- Moores, E. (2024). Why a “whack-a-mole” approach to widening participation won’t work: A policy brief. *Frontiers in Education*. <https://www.frontiersin.org/journals/education>
- OECD. (2024). Education at a glance 2024: OECD indicators. OECD Publishing. <https://doi.org/10.1787/c00cad36-en>
- Republic of the Philippines. (2017). Republic Act No. 10931: Universal Access to Quality Tertiary Education Act. https://lawphil.net/statutes/repacts/ra2017/ra_10931_2017.html
- Taylor, Z. W., Chu, M. H., & Li, J. J. (2022). Text simplification of college admissions instructions: A professionally simplified and verified corpus. arXiv. <https://arxiv.org/abs/2209.04529>
- UNESCO. (2022). *Beyond limits: New ways to reinvent higher education*. UNESCO. <https://unesdoc.unesco.org/>