



Equity-based access programs in Chilean higher education: An evaluation of institutional outcomes

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ABSTRACT

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Inclusive access programs based on contextual academic merit have gained increasing relevance as mechanisms for expanding opportunities in higher education. However, evidence remains limited regarding the subsequent academic performance of students who enter through these pathways. This study compares the academic trajectories of students who entered a Chilean public university through Equity-Based Access Programs with those who entered through the regular admissions process. The study uses a quantitative, longitudinal, and comparative design to analyze admission cohorts from 2017 to 2022. The sample included 6,748 first-time enrolled students, of whom 75% entered through regular admission and 25% through inclusive access programs. The analysis draws on institutional records and data from the national admissions system to examine pre-admission indicators, including secondary school grades, national admission test scores, and school rankings, as well as university trajectory indicators, including course pass rates, first-year grade averages, retention, academic progress, and timely graduation. The results show that, despite obtaining lower scores on standardized admission tests, students who entered through inclusive pathways had stronger prior school performance and comparable or superior university outcomes. In particular, they showed higher cumulative pass rates, higher first-year grade averages, and greater academic progress in programs lasting up to ten semesters, with no significant differences in retention or timely graduation. The study concludes that these programs help democratize access to higher education without compromising academic performance, while highlighting the relevance of prior school trajectories as indicators of university potential.

Contribution/Originality: The article contributes to the debate on university admissions by demonstrating that programs that recognize outstanding school trajectories can broaden access for underrepresented groups without creating academic disadvantages in course pass rates, retention, curricular progress, or graduation rates.

1. INTRODUCTION

Equitable access to higher education is a central component of social inclusion and intergenerational mobility policies. Ensuring that young people from socioeconomically disadvantaged backgrounds can enter, remain in, and graduate from tertiary education not only responds to principles of social justice but is also key to developing more cohesive and sustainable societies. In contexts where higher education functions as a mechanism for reproducing inequalities, the design and implementation of inclusive access and affirmative action programs become especially relevant (Briones & Leyton, 2020; Miranda-Molina & Leyton, 2025). These programs make it possible to implement public policies aimed at addressing social inequalities and democratizing education systems. Studying their outcomes offers valuable insights into the institutional conditions that shape inclusive education policies and into their promise of more equitable access to knowledge.

Demand for access to higher education has grown steadily in Latin America (Brunner, Alarcón, & Adasme, 2024; Nascimento, Mutize, & Chinchilla, 2022). In Chile, student enrollment has increased fivefold over the last four decades. In 1987, total undergraduate enrollment reached 218,669 students, while in 2025 this figure reached 1,327,334, of whom 55.1% were enrolled in universities (Higher Education Information Service, 2025). However, this expansion in coverage has been markedly unequal between high-income students and those from lower socioeconomic backgrounds (Espinoza, González, Sandoval, McGinn, & Corradi, 2022; Gedda-Muñoz & Carrasco-Bahamonde, 2023). Socioeconomic segmentation remains prevalent, especially in the choice of programs and types of institution (Barbosa-Camargo, García-Sánchez, & Ridao-Carlino, 2022; García & Adrogué, 2019; Jarpa-Arriagada & Rodríguez-Garcés, 2017).

In response to profound inequalities in access to higher education, various higher education institutions in Chile have implemented equity programs over the past two decades aimed at talented young people from educationally vulnerable backgrounds (Faúndez-García, Tapia, Moreno, Jorquera, & Llambías, 2017; Gallardo, Lorca, Morrás, & Vergara, 2014). These programs constitute affirmative action initiatives, initially implemented in the absence of affirmative public policies that facilitated access for vulnerable sectors. They seek to increase university enrollment and retention rates among students who, despite possessing the merit and academic abilities necessary to succeed in university life, are unable to access or remain in university due to their social origin or other factors beyond their personal control (Rahmer, Gil, & Miranda, 2016; Slachevsky & Rojas, 2021).

The structural inequity of a school system highly segmented by family income and educational level is compounded by the regressive nature of the standardized tests used in Chilean higher education to select students for university admission. Rather than measuring academic merit, these standardized tests are strongly correlated with students' socioeconomic backgrounds more than with their abilities or individual effort (Briones & Leyton, 2020; Espinosa & Rodríguez, 2024; Lizama, Gil, & Rahmer, 2018). Proponents of access programs have suggested that prior school performance is a better predictor of future performance in higher education (Lizama et al., 2018) since students who have excelled during their schooling demonstrate not only academic talent but also a broad set of skills that allow them to access and thrive in the university environment (Gil-Llambías, del Valle Martín, Villarroel Jorquera, & Fuentes Vega, 2019).

Two decades after that first institutional milestone, Chile has policies in place to promote access to higher education, such as free tuition for students from the lowest-income 60% of households, national equitable access programs, and university-level programs that foster equity. The implementation of these access policies and programs has generated growing academic interest in understanding their effects beyond initial admission, particularly in relation to academic performance and student retention. Evidence indicates that students who rank in the top 10% of their secondary school cohort and/or who come from inclusive access programs, especially those from vulnerable backgrounds, can achieve higher retention and graduation rates than students from privileged backgrounds with higher entrance scores (Faúndez-García et al., 2017; Gil-Llambías et al., 2019).

The study presented here aims, on the one hand, to evaluate the impact and outcomes of equity access programs implemented by the University of Los Lagos and, on the other, to contribute to the field of research on the academic performance of students admitted through special admission pathways compared with those admitted through the regular admission route. This research proposes a comparative analysis of the academic performance of both groups, considering variables such as course completion, academic progress, retention, and timely graduation.

The hypothesis guiding the study posits that students admitted through equity programs, when they have outstanding academic records, achieve academic performance equivalent to or even higher than that of students admitted through the regular admission route. In this context, the research question guiding this work is: Are there significant differences in academic performance between students who enter the University of Los Lagos through equity programs and those who enter through the regular admission route? This work seeks to advance longitudinal research that makes it possible to observe the sustained impact of inclusive access policies and programs in higher education systems. The study contributes to the debate on equitable access through a longitudinal comparative analysis of students admitted through special and regular pathways at the University of Los Lagos.

2. LITERATURE REVIEW

2.1. *The Long Road Toward the Inclusion of Students from Vulnerable Backgrounds*

Institutional efforts to promote equitable access to higher education in Chile are not new. As early as 1970, the State Technical University (UTE) implemented a pioneering policy by replacing the traditional Academic Aptitude Test with secondary school grade averages as an admission criterion, thereby recognizing prior school performance as an indicator of merit (Castro, Frites, & Vargas, 2016). Decades later, between 1992 and 2004, the University of Santiago de Chile (USACH), UTE's successor institution, reinforced this approach by awarding a 5% bonus on admission scores to high-achieving students from their respective schools (Gil, Rahmer, & Frites, 2016). This initiative faced strong resistance from the authorities of the time and from other universities.

The university itself created the Propedéutico Program in 2007. The program selected a group of young people from secondary schools in Santiago whose students largely came from low-income families and had limited prior access to higher education. It provided academic support in mathematics and communication skills, as well as vocational guidance, preparing students for their first year at the university. The highest-performing participants could gain admission to USACH regardless of their scores on standardized entrance examinations (Gil et al., 2016).

The program had a significant impact on the Chilean higher education system, and 19 universities replicated it from 2009 onward, forming the UNESCO Network of Propedéutico Universities in Chile (Urquiza, Rahmer, & Alfaro, 2023). Subsequently, in 2015, the UNESCO Chair at the same university promoted the Ranking 850 (R850) program. This initiative targeted students who had demonstrated outstanding academic performance throughout their four years of secondary education and achieved the maximum score associated with their school grades but who did not meet the minimum standardized test score required by the country's most selective universities (Faúndez-García et al., 2017).

In parallel, Chile's two most selective universities developed their own programs to promote access for students historically excluded from the higher education system. In 2009, the Department of Psychology at the University of Chile (UCH) implemented the Priority Admission System for Educational Equity (SIPEE, its Spanish acronym), which enabled high-achieving students from disadvantaged backgrounds to enter through admission criteria other than standardized entrance exam scores (Castro et al., 2014). Subsequently, in 2014, the same university created a priority admission system for women in its Common Engineering and Science Program through the Gender Equity Program (PEG, its Spanish acronym), which reserved admission slots for female applicants who did not reach the traditional cutoff score (Radovic et al., 2024).

The Pontifical Catholic University of Chile (PUC), in turn, created the Talent + Inclusion (T+I) program in 2011, initially within the Faculty of Engineering (Gallardo et al., 2014). In 2015, the program expanded to all degree

programs at the university (Moreno & Farías, 2015). T+I emerged in response to the low representation of students from municipal and subsidized schools, who in 2011 accounted for less than 10% of the institution's total enrollment (Moreno, Muñoz, García, & Vera, 2016).

Within the framework of initiatives to promote equitable access to higher education, the Council of Rectors of Chilean Universities began incorporating the Grade Ranking Score as a weighting factor into the Unified Admission System in 2013 (Rodríguez, Padilla-Fuentes, & Espinosa-Valenzuela, 2021). This measure sought to recognize students' academic performance in relation to their educational context during secondary school (Rodríguez, Espinosa, Padilla, & Suazo, 2022). In addition to valuing the academic merit of students who excelled within their own schools, the objective was to reduce the dominance of standardized tests and facilitate the admission of students whose outstanding school performance was not adequately reflected in standardized assessments (Rodríguez et al., 2021).

The expansion of university-level programs and the debate surrounding their outcomes were decisive factors in prompting the State to implement public policies aimed at promoting equitable access to higher education. In this context, during the second administration of former President Michelle Bachelet, the Program for Accompaniment and Effective Access to Higher Education (PACE, its Spanish acronym) was created in 2014 (Cooper, Guevara, Rivera, Sanhueza, & Tincani, 2019; Slachevsky & Rojas, 2021). This initiative seeks to guarantee admission slots for students who rank in the top 15% of their grade distribution in highly vulnerable secondary schools (Cooper et al., 2022), combining support strategies during secondary education and the first years of higher education (Espinoza, et al., 2022; Soto-Cárcamo, Mancilla, & Flores, 2025). Subsequently, in 2016, the Chilean State promoted a policy aimed at progressively moving toward tuition-free higher education to reduce economic barriers to access (Espinoza, et al., 2022).

As a result of this long process, inclusion and affirmative action policies and programs have facilitated the entry of new social groups into Chilean higher education, progressively transforming the traditional composition of the university student body. In particular, these initiatives have increased the presence of young people from historically excluded backgrounds, including students from public secondary schools serving socioeconomically vulnerable communities, students from rural areas, women in STEM fields, students from Indigenous communities, and those with interrupted educational trajectories (Espinoza, et al., 2022; Lizama et al., 2018; Radovic et al., 2024).

2.2. Academic Performance of Students Admitted through Inclusive Pathways

Several studies have compared the performance of students admitted through equity-based access pathways with that of students admitted through regular admission, providing key evidence on the scope and limitations of these equity measures. Research on inclusive access programs in Chile has shown that the academic outcomes of students admitted through these pathways are similar to those of students admitted through the national selection system. For example, evaluations of the Ranking 850 program have shown that students selected based on their relative school performance achieve better university outcomes than students with higher scores on the University Selection Test (PSU, its Spanish acronym) but less consistent prior academic trajectories (Faúndez-García et al., 2017). González (2020), in a comparative study of students admitted through the Propedéutico Program and regular admission at the University of Santiago de Chile, shows that students in the equity-based access program generally obtained better grades than their peers admitted through the PSU, especially during the first semesters. This pattern was observed in both the Faculty of Technology and the Faculty of Engineering, indicating a rapid narrowing of the initial curricular gap.

Studies related to the PACE program, including (Gil-Llambías et al. 2019), show that, when comparing the performance of PACE students with that of students admitted through the Unified Admission System (SUA, its Spanish acronym) within the same cohort, PACE students obtained slightly lower grades in three key subjects: Algebra, English, and a third subject that varied by university. However, the observed differences were not

statistically significant. Similarly, Herrera (2021) found that PACE beneficiaries achieved pass and retention rates equivalent to those of regular admission students, provided they received academic and psychoeducational support during their first years of study. In these studies, despite entering with lower scores on the University Selection Test and coming from more vulnerable backgrounds, students in inclusive access programs achieved grades comparable to those of their peers admitted through traditional pathways.

Santelices, Horn, and Catalán (2019) studied the academic performance of students admitted through affirmative action programs at three highly selective metropolitan universities: the Priority Admission System for Educational Equity (SIPEE, its Spanish acronym) at the University of Chile (UCH), the Propedéutico Program at the University of Santiago of Chile (USACH), and the Talent and Inclusion (T+I) program at the Pontifical Catholic University of Chile (PUC). The findings show that, in terms of average grades, students in the T+I and SIPEE programs achieved similar results, with no statistically significant differences. In contrast, students admitted through the Propedéutico Program tended to obtain slightly lower grade averages. Regarding persistence, both T+I and SIPEE showed rates similar to those of their comparison groups, whereas the Propedéutico Program showed lower levels of persistence.

Corradi, Espinosa, Rodríguez, and Espinoza (2025) analyze university retention among students who entered higher education through the PACE program compared with those admitted through regular admission. The authors conclude that PACE students experienced higher dropout rates during the first two semesters, a phenomenon attributed primarily to their lower initial academic performance. Although both groups reached comparable academic performance by the fourth semester, dropout rates among PACE students remained higher. Only from the fifth semester onward did the differences in dropout rates between the two groups tend to disappear. These findings suggest that access alone does not guarantee retention and that pre-existing structural inequalities continue to shape academic trajectories beyond admission.

Espinoza et al. (2025) analyze the effects of Chile's tuition-free higher education policy on academic performance in higher education institutions, considering four dimensions: grade point average, course pass rates, retention, and continuation of studies. The study finds that students benefiting from tuition-free higher education achieve higher grade point averages and higher course pass rates than their non-beneficiary peers. The results also show higher retention rates among beneficiaries, especially during the first and second years of study. The authors suggest that the tuition-free policy not only helps reduce access barriers but also creates more favorable academic conditions for students from vulnerable backgrounds to remain in and progress through university studies.

In the case of the UCH Gender Equity Program (PEG, its Spanish acronym), although it does not specifically target students from vulnerable backgrounds, it aims to promote equitable access for women to science, technology, engineering, and mathematics (STEM) programs. Radovic et al. (2024) found that female students entering through this pathway showed progressive improvement in their academic performance, eventually reaching levels comparable to those of students admitted through regular admission. Regarding graduation rates by admission pathway, the results show that regular admission students had higher graduation rates; however, these differences were not statistically significant compared with those of women admitted through PEG.

International studies, particularly those conducted in Brazil, show divergent results between students admitted through equity quotas and those admitted through regular pathways. Brazil offers a relevant point of comparison because its higher education system shares certain features with Chile in terms of institutional configuration and financing.

While some studies show that students admitted through equity quotas tend to have lower academic performance (de Oliveira Maximo, Gandolfi, & Lopes, 2020; Claudio de Souza Miranda, de Lima, & de Andrade, 2020; Peixoto, Ribeiro, Bastos, & Ramalho, 2016) others report no statistically significant differences between the two groups (Cláudio de Souza Miranda, de Lima, & Marinello, 2018; Loureiro, Carvalho, & de Oliveira Rodrigues, 2024; Rodrigues, Martins, & Silva, 2020; Valente & Berry, 2017).

3. METHODOLOGY

3.1. Study Design

The study adopts a quantitative, longitudinal, and comparative design to analyze the academic trajectories of undergraduate students by admission pathway at the University of Los Lagos. Two groups are compared: students who entered through regular admission (RA, hereafter) and students who accessed the university through Equity-Based Access Programs (EBAP, hereafter). The analysis considers admission cohorts from 2017 to 2022, enabling examination of both pre-admission indicators and academic outcomes across students' university trajectories.

3.2. Study Population and Comparison Groups

The study population consisted of newly enrolled undergraduate students at the University of Los Lagos from the 2017–2022 cohorts. The analysis distinguished between two main admission groups. The first group included students who entered through regular admission (RA), that is, through the Unified Admission System, which uses secondary school grades, school ranking, and scores on the national university entrance examinations in force during the study period as selection factors.

The second group included students who entered through Equity-Based Access Programs (EBAP). For this study, EBAP included three institutional inclusive admission pathways: PACE, Propedéutico ULagos, and the Pedagogical Talent Attraction Program. These programs share three key characteristics: they recognize outstanding school performance in context, require students to take the national university entrance examination, and do not necessarily make admission dependent on the score obtained on that test. In addition, they include preparation stages before entry into higher education and provide academic, psychoeducational, and socioemotional support during students' university trajectories.

3.3. Data Sources

The data used in this study come from both external and institutional sources. To characterize academic performance before university admission, the analysis draws on records from the national admissions system, specifically students' secondary school grades (NEM, its Spanish acronym), ranking scores, and scores obtained on national admission tests.

To analyze academic performance throughout students' university trajectories, the study drew on institutional databases from the University of Los Lagos. These included enrollment records, grade and academic workload databases, curricular progress records, and graduation records. These sources enabled the construction of indicators for course pass rates, first-year grade averages, retention, curricular progress, and timely graduation.

3.4. Variables and Indicators

The analysis considered two types of indicators. The first group captured academic performance before university admission. This dimension included secondary school grade averages, NEM scores, school-ranking scores, and average scores on national university entrance examinations.

The second group captured performance during university studies. This dimension included six main indicators: first-year course pass rates, first-year grade averages, first-year retention, third-year retention, curricular progress, and timely graduation.

The study calculated first-year course pass rates using records of the courses students enrolled in during their first academic year, distinguishing between passed and failed courses. It calculated first-year grade averages using the academic records available in the institutional grade and course load database.

The study defined first-year retention as students' continued enrollment at the university in the year following admission. It calculated third-year retention based on students' continued enrollment through the third year after admission. The analysis excluded cohorts that had not yet completed the required follow-up period for this indicator.

The study calculated curricular progress as the percentage of credits passed relative to the total credits established in each program curriculum. It performed this calculation at the end of each program's formal duration. The analysis considered passed, validated, and transferred credits, applying institutional criteria based on the guidelines of the Higher Education Information Service (SIES, its Spanish acronym), with a maximum tolerance of 25% above the total credits established in the curriculum. Due to differences in program duration, the analysis grouped programs into three categories: eight-semester programs, nine- and ten-semester programs, and eleven- and twelve-semester programs.

The study defined timely graduation as obtaining the degree within the formal timeframe established by the curriculum. It calculated this indicator only for cohorts and programs that had completed the necessary observation period for graduation within the corresponding formal duration.

3.5. Statistical Analysis Strategy

Statistical analysis was guided by the variable type and the distribution of the data. For continuous variables, such as secondary school grade averages, NEM scores, ranking scores, PSU/PDT/PAES scores, first-year grade averages, and curricular progress, the study used nonparametric tests for group comparisons. The analysis applied the Mann-Whitney U test to compare students admitted through regular admission (RA) with those admitted through Equity-Based Access Programs (EBAP) (Table 1). Some analyses also included ANOVA as a complementary test; however, the interpretation prioritized nonparametric tests because the data did not meet the assumptions of normality and homoscedasticity.

For categorical variables, such as pass/fail status, retention, and timely graduation, the analysis used chi-square tests of independence. These tests assessed whether the distribution of academic outcomes differed significantly by admission pathway. Internal analyses within the EBAP group compared students admitted through PACE, the Preparatory Program, and the Pedagogical Talent Program. Where appropriate, the analysis applied multiple comparisons with Bonferroni correction.

All analyses used a significance level of $\alpha = 0.05$. The results are reported as frequencies, percentages, means, and statistical significance values. When cohorts or programs had not completed the observation period required for a given indicator, the analysis excluded them from the corresponding calculation.

Table 1. Dimensions, Indicators, and Statistical Tests Used in the Analysis.

Dimension	Indicator	Type of variable	Main statistical test
Pre-admission performance	Secondary school grade average / NEM	Continuous	Mann-Whitney U
	NEM score	Continuous	Mann-Whitney U
	School ranking score	Continuous	Mann-Whitney U
	PSU/PDT/PAES score	Continuous	Mann-Whitney U
University trajectory	First-year course pass rate	Categorical	Chi-square
	First-year grade average	Continuous	Mann-Whitney U
	First-year retention	Categorical	Chi-square
	Third-year retention	Categorical	Chi-square
	Curricular progress	Continuous	Mann-Whitney U
	Timely graduation	Categorical	Chi-square

It is important to clarify the scope of the statistical analysis performed. This study was designed as a longitudinal and comparative institutional evaluation rather than as a causal analysis of the independent effect of the admission pathway. Therefore, the statistical tests used make it possible to identify differences in distributions and proportions between admission groups, but they do not incorporate a strategy for estimating the specific weight of the admission pathway relative to other relevant student characteristics, such as socioeconomic status, gender, program of study, and first-generation university student status, among others.

4. RESULTS

4.1. Profile of Admission Groups

Table 2 presents the composition of student groups by university admission pathway in 2022, distinguishing between students admitted through regular admission (RA) and those admitted through Equity-Based Access Programs (EBAP). The RA group accounted for 68.4% of total enrollment in undergraduate degree programs, while the EBAP group represented 31.6%. The proportion of students admitted through EBAP increased by approximately 12 percentage points between 2017 and 2022 (ULagos, 2022). Regarding gender composition, women represented a higher proportion of EBAP students (69.9%) than RA students (52.9%). The proportion of first-generation university students was also higher in the EBAP group (77.1%) than in the RA group (56.9%). Greater access among socioeconomically vulnerable groups is also reflected in family income composition: 90.1% of EBAP students came from households in the lowest income quintiles, compared with 77.6% of RA students. These results suggest that EBAP has contributed to more equitable access by increasing the participation of women, first-generation university students, and students from lower-income households.

Table 2. Characteristics of the Composition of Both Admission Groups in 2022.

Admission type	% of enrollment	Gender (% women)	First-generation students	Family income lowest quintiles
Regular admission (RA)	68.4%	52.9%	56.9%	77.6%
EBAP admission	31.6%	69.9%	77.1%	90.1%

4.2. Pre-Admission Academic Performance

Table 3 shows the average secondary school grade scores, known as NEM, for the two admission groups from 2017 to 2022. In all years analyzed, the EBAP group had higher average NEM scores than the RA group, showing sustained growth over the period. In 2017, the average NEM was 5.96 for EBAP and 5.62 for RA; by 2022, these figures had increased to 6.29 and 5.81, respectively. A Mann-Whitney U test confirmed that the difference in prior academic performance between the two groups was statistically significant ($p < .001$). This finding supports the alternative hypothesis that secondary school grades differ systematically across admission pathways.

Table 3. Average Secondary School Grades (NEM) by Year and Admission Group.

Admission group	2017	2018	2019	2020	2021	2022	Mann-Whitney U test*
Regular admission (RA)	5.62	5.59	5.57	5.62	5.72	5.81	< 0.001
EBAP admission	5.96	5.93	5.98	5.98	6.15	6.29	

Note: *Differences were statistically significant across all cohorts, $p < 0.001$.

Table 4 presents the average scores obtained on standardized selection tests by students who entered the university between 2017 and 2022, by admission group. The data show a consistent difference between the two groups. Students admitted through regular admission (RA) obtained higher scores on these tests in all years analyzed than those admitted through Equity-Based Access Programs (EBAP). In 2017, the average score for the RA group was 534.5 points, while the EBAP group reached 464.3 points. In 2022, the RA group averaged 527.7 points, compared with 479.2 points for the EBAP group. The Mann-Whitney U test confirmed statistically significant differences between the two groups across all cohorts ($p < .001$), leading to the rejection of the null hypothesis of equal distributions.

Table 4. Average Scores on Standardized Selection Tests by Year and Admission Group.

Admission group	2017	2018	2019	2020	2021	2022	Mann-Whitney U test*
Regular admission (RA)	534.5	531.5	529.3	536.8	533.5	527.7	< 0.001
EBAP admission	463.3	478.0	468.7	476.5	469.8	479.2	

Note: *Differences were statistically significant across all cohorts, $p < 0.001$.

4.3. Academic Performance During University Studies

Table 5 presents first-year course pass rates between 2017 and 2022, disaggregated by admission group. The results show that students admitted through EBAP did not perform worse overall in terms of course pass rates. In two years of the 2017–2022 period, 2018 and 2021, EBAP students had significantly higher pass rates than RA students. In three other years, 2019, 2020, and 2022, no statistically significant differences were found between the two groups. Only in 2017 did regular admission students have a significantly higher first-year course pass rate than EBAP students. Overall, the results do not show systematically better performance among students admitted through regular admission. Conversely, the cumulative pass rate across all cohorts was slightly higher in the EBAP group (89.8%) than in the RA group (88.2%), and the chi-square test indicated a statistically significant difference ($p < 0.001$).

Table 5. First-Year Course Pass Rates by Admission Group, 2017–2022.

Admission group	2017	2018	2019	2020	2021	2022	Total cohorts
Regular admission (RA)	83.7%	83.3%	86.9%	93.0%	91.4%	91.6%	88.2%
EBAP admission	81.0%	87.0%	86.6%	93.8%	93.2%	92.1%	89.8%
Chi-square test	0.003*	< 0.001*	0.752	0.087	0.001*	0.408	< 0.001*

Note: *Statistically significant at $p < 0.05$.

Table 6 presents performance by admission group, measured as first-year grade averages. Except in 2017, EBAP students had higher grade averages than RA students in all years analyzed. In 2018 and 2019, these differences were statistically significant. Over the full period, the cumulative first-year grade average of the EBAP group was significantly higher than that of the RA group ($p < 0.001$).

Table 6. First-Year Grade Averages by Admission Group, 2017–2022.

Admission group	2017	2018	2019	2020	2021	2022	Total cohorts
Regular admission (RA)	4.91	4.91	5.04	5.52	5.49	5.37	5.20
EBAP admission	4.86	5.09	5.10	5.56	5.54	5.41	5.30
Mann-Whitney U test	0.220	0.001*	0.003*	0.110	0.150	0.294	< 0.001*

Note: *Statistically significant at $p < 0.05$.

Regarding first-year retention rates, results varied between the two groups, but the differences were not statistically significant in any year (Table 7). In 2017 and 2019, regular admission students had higher retention rates (79.8% and 84.4%) than EBAP students (77.0% and 79.9%). In 2018, 2020, 2021, and 2022, EBAP students showed higher first-year retention rates. In cumulative terms, both groups showed similar first-year retention levels: 84.2% for RA and 85.3% for EBAP, with no statistically significant differences. These results indicate that, on average, the admission pathway was not associated with significant differences in first-year university retention.

Table 7. First-Year Retention Rates by Admission Group, 2017–2022.

Admission group	2017	2018	2019	2020	2021	2022	Total cohorts
Regular admission (RA)	79.8%	79.7%	84.4%	89.4%	83.5%	88.5%	84.2%
EBAP admission	77.0%	85.3%	79.9%	91.2%	85.6%	88.8%	85.3%
Chi-square test	0.381	0.059	0.076	0.354	0.406	0.869	0.259

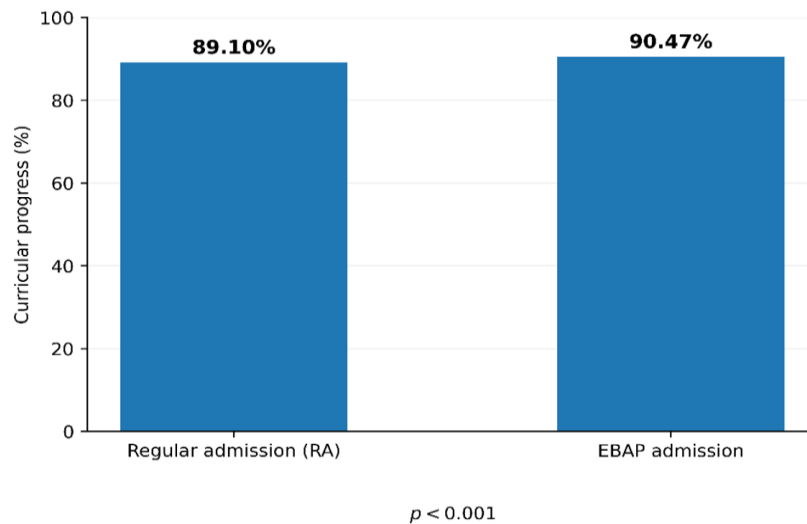
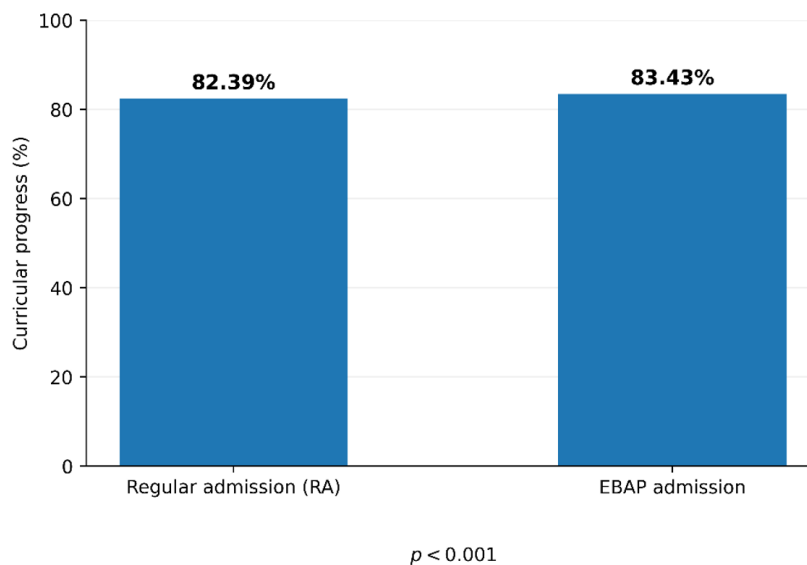
Table 8 presents third-year retention rates by admission group between 2017 and 2021. The 2022 cohort was excluded because it had not yet completed the three-year follow-up period. Retention rates were similar between the two groups in most years, except in 2017, when third-year retention was significantly higher among RA students ($p = 0.012$), and in 2018, when EBAP students had a higher retention rate than RA students (71.6% vs. 64.1%; $p = 0.038$). Between 2019 and 2021, as well as in the overall series, no statistically significant differences in third-year retention were observed between the two groups.

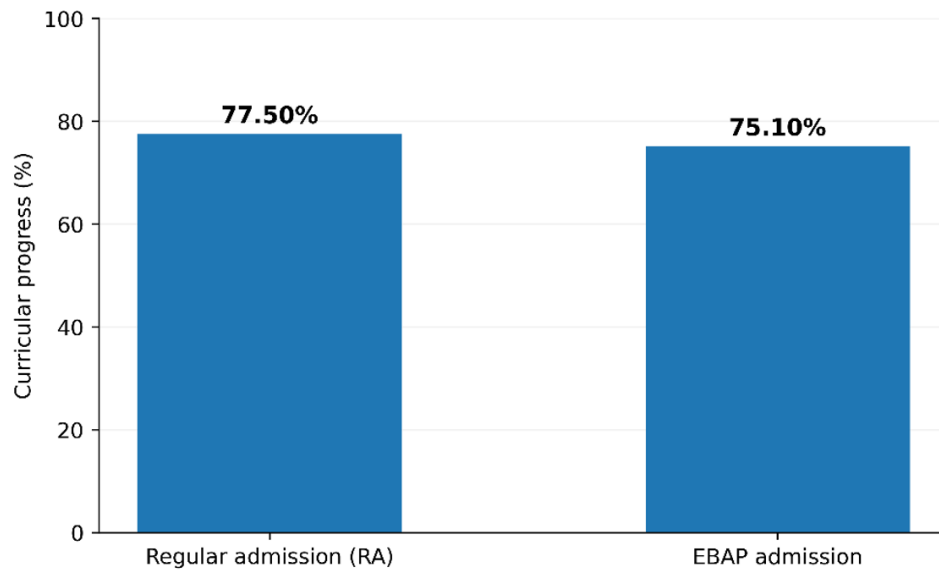
Table 8. Third-Year Retention Rates by Admission Group, 2017–2021.

Admission group	2017	2018	2019	2020	2021	Total cohorts
Regular admission (RA)	65.7%	64.1%	70.7%	72.2%	69.9%	68.5%
EBAP admission	56.1%	71.6%	69.2%	68.4%	69.5%	67.3%
Chi-square test (p-value)	0.012*	0.038*	0.630	0.185	0.622	0.423

Note: Values in the chi-square test row represent p-values. * indicates statistical significance at $p < 0.05$.

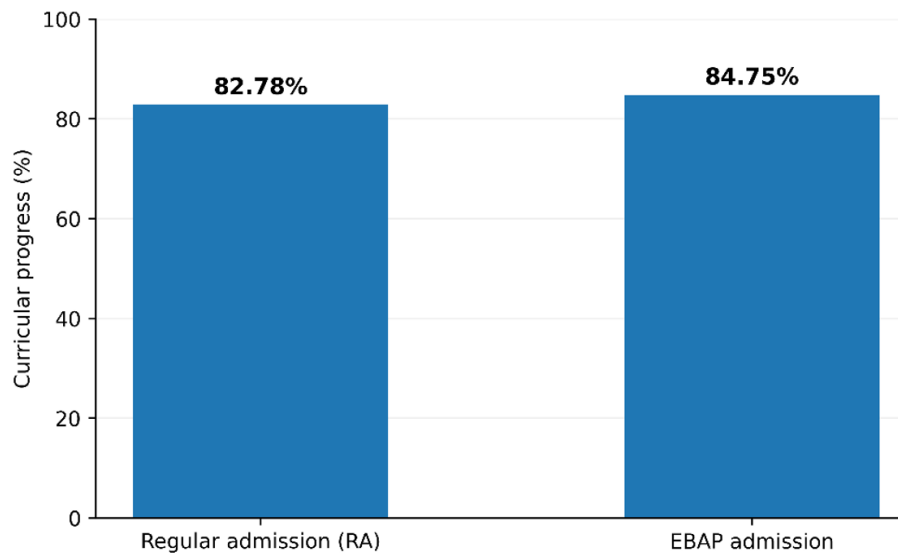
Figures 1 through 4 summarize the analysis of cumulative curricular progress among students admitted through regular admission and EBAP. In eight-semester programs (Figure 1), EBAP students showed a higher level of curricular progress (90.47%) than RA students (89.10%), a statistically significant difference ($p < 0.001$). A similar trend appeared in nine- and ten-semester programs (Figure 2), where EBAP students reached 83.43%, compared with 82.39% for RA students, with a statistically significant difference ($p < 0.001$). Conversely, in longer programs lasting eleven and twelve semesters (Figure 3), RA students showed higher curricular progress (77.50%) than EBAP students (75.10%), also with a statistically significant difference ($p < 0.001$). Finally, Figure 4 presents the overall average curricular progress across all cohorts and program types. The EBAP group reached 84.75%, compared with 82.78% for the RA group, indicating greater cumulative curricular progress among students admitted through equity-based access pathways ($p < 0.001$).

**Figure 1.** Cumulative curricular progress in 8-semester programs by admission type.**Figure 2.** Cumulative curricular progress in 9- and 10-semester programs by admission type.



$p < 0.001$

Figure 3. Cumulative curricular progress in 11- and 12-semester programs by admission type.



$p < 0.001$

Figure 4. Cumulative curricular progress across all cohorts and programs.

Table 9 presents timely graduation rates, defined as graduation within the formal duration of the program, for the 2017, 2018, and 2019 cohorts. The results show no statistically significant differences between the RA and EBAP groups in any cohort. The chi-square test confirmed that timely graduation rates were statistically equivalent across admission groups.

Table 9. Timely Graduation Rates by Cohort and Admission Group.

Cohort	Timely graduation rate, Regular admission (RA)	Timely graduation rate, EBAP admission	Chi-square test
2017	35.2%	30.6%	0.216
2018	37.5%	39.8%	0.546
2019	52.2%	58.3%	0.517

5. DISCUSSION

The study's results confirm and extend evidence from previous research on the performance of students admitted through equity-based access programs. The findings show that, despite obtaining significantly lower scores on standardized selection tests, students admitted through inclusive pathways exhibit academic trajectories comparable to, and, in some analyzed indicators, superior to, those of their peers admitted through regular admission. This result is relevant because it challenges the notion that standardized test scores constitute the primary indicator of students' academic potential and reinforces the importance of considering prior educational trajectories and contextual conditions in university admission processes.

First, the Equity-Based Access Programs (EBAP) at the University of Los Lagos have made a significant contribution to diversifying the student body by incorporating groups historically underrepresented in the Chilean higher education system. The increased presence of first-generation university students, women, and young people from lower-income households shows that these programs not only broaden access pathways but also modify the social composition of those who enter university. This finding supports the argument that equitable access programs have played an important role in democratizing access to higher education (Slachevsky & Rojas, 2021) by enabling the effective inclusion of students who face greater obstacles to entering higher education (Moreno & Farías, 2015).

The results regarding students' prior academic performance reveal a central tension in selective admission systems. EBAP students had higher secondary school grade averages but obtained significantly lower scores on standardized selection tests. This indicates that these two indicators do not capture the same dimensions of academic performance. The difference suggests that standardized tests tend to reflect inequalities accumulated throughout students' school trajectories, whereas secondary school grades capture sustained performance within their educational contexts. These findings reinforce criticisms of the predictive capacity of standardized tests as the primary mechanism for university admission (Fuentes, Hoffman, & Ruíz, 2025; Lizama et al., 2018; Rodríguez et al., 2021) and support the idea that prior academic performance is a relevant indicator of academic potential (González, 2018; Lizama et al., 2018).

Third, the results on university performance show that initial differences in entrance scores do not translate into poorer academic outcomes. EBAP students achieved similar or higher pass rates, grade averages, and curricular progress than regular admission students in several of the years and cohorts analyzed. These results are consistent with national evidence on inclusive access programs, which has shown that students benefiting from these pathways achieve performance equivalent to that of regular admission students (Faúndez-García et al., 2017; Gil-Llambías et al., 2019; Herrera, 2021; Santelices et al., 2019). International evidence also supports this trend in affirmative action and quota programs in Brazil and China (Loureiro et al., 2024; Niu & Wan, 2018).

In the case of retention, the results show no significant differences between the two admission groups, especially when cohorts are observed over time. This finding aligns with Faúndez-García et al. (2017), who examined students admitted through the Ranking 850 program, and with Santelices et al. (2019), who analyzed the Propedéutico, SIPEE, and Talent + Inclusion programs. Both studies found no significant differences in persistence by admission pathway. In other words, the results suggest that admission through equity-based access programs does not, in itself, constitute a risk factor for university retention.

A similar pattern emerges for timely graduation. The results show no statistically significant differences between RA and EBAP students. This finding is relevant because it indicates that comparable trajectories are not limited to the first year but also extend to more advanced stages of university education. In this respect, the results align with studies on quota programs in Brazil, which show that students admitted through equity-based pathways, despite beginning their university trajectories with lower entrance scores, can achieve similar graduation rates (Rodrigues et al., 2020) or even higher rates (Loureiro et al., 2024).

A particular pattern emerges regarding curricular progress. On the one hand, EBAP students show greater progress in programs lasting up to ten semesters. On the other hand, in longer degree programs, students admitted

through regular admission show higher levels of progress. One possible hypothesis is that 11- and 12-semester programs correspond primarily to fields such as engineering, whose curricula tend to include a greater number of quantitative subjects. In these areas, gaps in prior preparation may become more pronounced, as documented in studies of affirmative action programs in Brazil (de Oliveira Maximo et al., 2020; Claudio de Souza Miranda et al., 2020). This finding suggests that inclusive access policies require differentiated support according to disciplinary area, degree program type, and curricular requirements.

Taken together, the findings confirm the study's hypothesis. Students admitted through equity-based access programs, when they have outstanding academic records, can achieve academic performance equivalent to or higher than that of their peers admitted through regular admission. This reinforces the argument that scores on standardized national tests do not accurately reflect the academic potential of students from socioeducationally vulnerable backgrounds. Rather, these instruments can reproduce pre-existing social inequalities when used as the primary selection criterion. Therefore, the results underscore the value of equitable access programs as tools for reducing structural gaps and moving toward a more inclusive and socially just university.

Several methodological limitations should be considered when interpreting these results. First, the analysis relies primarily on bivariate comparisons and does not control for variables that may influence both the admission pathway and academic outcomes, including socioeconomic status, gender, academic program, first-generation student status, and field of study. Second, the study does not incorporate multivariate models, making it impossible to isolate the independent contribution of the admission pathway to the indicators analyzed. Third, effect sizes were not estimated, which limits the assessment of the practical magnitude of statistically significant differences. This is particularly relevant given the sample size, as relatively small differences can reach statistical significance.

This study suggests several avenues for future research. First, academic performance could be analyzed by disciplinary area. Disaggregating the data by faculty, degree program, or field of study would make it possible to identify whether disciplines with a strong quantitative component, such as engineering or the exact sciences, reveal specific gaps in prior preparation between students admitted through inclusive pathways and those admitted through regular admission.

Second, future research could examine academic performance through qualitative indicators that go beyond quantitative measures such as grade averages, retention, graduation, or completion. Relevant dimensions may include student participation in research projects, student leadership activities, the development of transversal skills, and students' perceived satisfaction with their educational experience. This approach would allow for a more holistic and comprehensive understanding of the outcomes of equitable access policies.

6. CONCLUSION

This study provides empirical evidence to inform the debate on equity in access to higher education, showing that students from vulnerable backgrounds who have outstanding academic records can achieve academic performance equivalent to or higher than that of their peers admitted through regular admission.

The results addressed the research question guiding the study. Students admitted through inclusive access programs not only achieved academic performance levels similar to those of their peers admitted through regular admission but also showed equal or superior results on several indicators. In particular, they showed higher first-year pass rates, higher grade averages across several cohorts, and greater curricular progress in programs lasting up to ten semesters.

Furthermore, the results showed no significant differences in retention rates or timely graduation, suggesting that admission through inclusive access programs does not constitute a structural disadvantage for university academic trajectories. Taken together, the findings reinforce the relevance of these programs as institutional mechanisms capable of expanding educational opportunities without compromising academic performance.

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Institutional Review Board Statement: The study involved minimal risk and followed ethical guidelines for social science fieldwork. Formal approval from an Institutional Review Board was not required under the policies of the Institute for Research Ethics Committee of the University of Los Lagos, Chile. Informed verbal consent was obtained from all participants, and all data were anonymized to protect participant confidentiality.

Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

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