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Educational Trajectories Of Indigenous Students: Vertical And Horizontal Stratification In The Chilean Educational System

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Abstract

Multiple studies connect ethnic background with uneven educational outcomes; this study contributes a novel perspective to the literature by attending to indigenous peoples' experiences with vertical and horizontal dimensions of stratification in the Chilean school system. This dissertation investigates the transition from primary to secondary school and to higher education, comparing enrollment in academic and vocational tracks at the secondary and tertiary levels. It then investigates the choice of field of study among students who enroll in higher education. Finally, it compares the educational trajectories of indigenous and non-indigenous student cohorts who entered higher education before and after the post-2011 free-of-charge policy. With a series of logistic regressions, I investigate differences in critical educational transitions associated with indigenous status, together with gender and location. Analyses of the 2012 seventh-grade cohort shows that indigenous status increases the likelihood of enrolling in vocational high schools, but regarding the transition to higher education, indigenous status is only relevant when school SES is not included. Nevertheless, vocational high school graduates (where indigenous students concentrate) are less likely to enroll in higher education, and more likely to enroll in vocational instead of academic higher education programs. Furthermore, in higher education, indigenous students are more likely than non-indigenous peers to enroll in vocational "Engineering, Industry and Construction" programs and vocational "Health and Social Services" programs, while they are less likely to enroll in academic "Social Sciences, Management, and Law" programs. However, controlling for school SES renders these differences irrelevant. Previous cohorts show little variation in the transition into higher education for the 2015-2018 period. However, there is some indication of a shrinking gap in enrollment rates between vocational and academic high school graduates, a reduction of enrollment in vocational higher education programs after 2016, and a declining impact of school characteristics. Overall, indigenous status has a clear impact on students' transition from middle school to high school, which has relevant consequences for the transition to higher education. While indigenous status loses salience in this latter transition, gender, and type of high school strongly affect the choice of higher education field of study and type of program.

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To my family of blood, life, and fur

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ABSTRACT

EDUCATIONAL TRAJECTORIES OF INDIGENOUS AND NON-INDIGENOUS STUDENTS IN CHILE

Andrea Paz Alvarado Urbina

Emily Hannum

Multiple studies connect ethnic background with uneven educational outcomes; this study contributes a novel perspective to the literature by attending to indigenous peoples' experiences with vertical and horizontal dimensions of stratification in the Chilean school system. This dissertation investigates the transition from primary to secondary school and to higher education, comparing enrollment in academic and vocational tracks at the secondary and tertiary levels. It then investigates the choice of field of study among students who enroll in higher education. Finally, it compares the educational trajectories of indigenous and non-indigenous student cohorts who entered higher education before and after the post-2011 free-of-charge policy. With a series of logistic regressions, I investigate differences in critical educational transitions associated with indigenous status, together with gender and location. Analyses of the 2012 seventh-grade cohort shows that indigenous status increases the likelihood of enrolling in vocational high schools, but regarding the transition to higher education, indigenous status is only relevant when school SES is not included. Nevertheless, vocational high school graduates (where indigenous students concentrate) are less likely to enroll in higher education, and more likely to enroll in vocational instead of academic higher education programs. Furthermore, in higher education, indigenous students are more likely than non-indigenous peers to enroll in vocational "Engineering, Industry and Construction" programs and vocational "Health and Social Services" programs, while they are less likely to enroll in academic "Social Sciences, Management, and Law" programs. However, controlling for school SES renders these differences irrelevant. Previous cohorts show little variation in the transition into higher education for the 2015-2018 period. However, there is some indication of a shrinking gap in enrollment rates between

vocational and academic high school graduates, a reduction of enrollment in vocational higher education programs after 2016, and a declining impact of school characteristics. Overall, indigenous status has a clear impact on students' transition from middle school to high school, which has relevant consequences for the transition to higher education. While indigenous status loses salience in this latter transition, gender, and type of high school strongly affect the choice of higher education field of study and type of program.

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CHAPTER 1: INTRODUCTION

Over time, education has become increasingly relevant in the lives of people. The amount of time we spend in formal education during our lifetime has extended, as has the symbolic weight of education in our most crucial life course decisions (Collins, 1979; Blossfeld & Shavit, 1991). However, despite the expansion of educational systems and the resultant increase in opportunities to access education, inequities linked to class, race/ethnicity, and gender persist around the globe (Hannum et al., 2017; UNESCO, 2020). From a policy viewpoint, most countries have developed strategies to reduce educational inequality and increase education benefits at the individual and societal levels; however, historically underserved/excluded groups still occupy a disadvantaged position in most societies.

The persistence of educational disparities despite policy efforts and expansion can be better understood by considering the vertical dimension of stratification (i.e., group differences in attainment) and the horizontal dimension. Vertical stratification refers to differences in levels of educational attainment (Reimer & Thomsen, 2019), and horizontal stratification refers to qualitative differences between tracks, programs, or institutions (Breen & Jonsson, 2000; Gerber & Cheung, 2008; Triventi, 2013). Regarding horizontal stratification, studies have shown that students from underprivileged backgrounds tend to concentrate in classrooms, tracks, and institutions that grant fewer later rewards; this phenomenon has been linked to ethnic and racial disparities in education, mainly through the notions of tracking and segregation (Oakes, 1985; Gamoran, 1987; Diamond, 2006). However, how indigenous students are affected by the dynamics of horizontal stratification has not been paid the same attention.

In Latin America, although indigenous peoples have been the target of educational policies focusing on access, language inclusivity, and funding, a significant attainment gap between indigenous and non-indigenous students remains in most countries in the region (UNESCO, 2015). Because the expansion of the educational systems in many Latin American countries is a relatively new phenomenon, studies of ethnic inequality in education tended to

concentrate on access, and more recently, on achievement and attainment gaps (i.e., the vertical dimension of educational stratification). In this dissertation, I aim to contribute by providing new evidence about the educational trajectories of indigenous students in Chile, specifically by focusing on horizontal stratification within the educational system. Moreover, I aim to analyze how the geographic distribution of indigenous peoples impacts their educational trajectories; and to consider the impact of these trajectories on indigenous students' choices in higher education. In this study, horizontal stratification refers to the choice between an academic or a vocational curriculum in high school, the choice of a type of institution, and a field of study in higher education.

In Latin America, Chile is a country of particular interest in studying the impact and consequences of educational policies. The Chilean educational system has undergone drastic changes during the last 50 years, from a primarily state-funded school system and a small, unified public higher education system, to a diversified and choice-driven arrangement at the school and higher education levels. These changes prompted a significant expansion in school enrollment, which is particularly relevant at the tertiary education level; on the other hand, pro-choice and privatizing policies have consolidated class inequalities since access to quality education is primarily dependent on family affluence (Torche, 2005; Cabalin, 2012), and the school system's segmentation implies an uneven allocation of resources (Behrman et al., 2016). In particular, the separation of schooling tracks at the high school level into academic and vocational curriculums, offered mainly by different institutions, relates to educational inequalities due to the resources available to each group and uneven returns to academic and vocational degrees in the labor market (Sánchez & Escudero, 2008; Larrañaga et al., 2014).

Nevertheless, how these changes have impacted specific student populations in the country has not been sufficiently studied; notably, scholars have seldom addressed the educational trajectories of indigenous peoples. Some very relevant studies have focused on particular indigenous groups in school or at the college level (Mondaca et al., 2015, 2017; Pavez, 2012; Pavez et al., 2018; Williamson et al., 2012). Nevertheless, few studies have attempted to

offer a clear overview of the educational trajectories of indigenous students across the Chilean school system. This project focuses specifically on patterns of vertical and horizontal stratification of indigenous students at the secondary and tertiary schooling levels compared to their non-indigenous peers. A thorough characterization of the educational trajectories of indigenous students in Chile may provide relevant clues for the understanding of the underlying patterns of persistent schooling gaps.

Scholars agree that the situation of indigenous populations in Latin America is unfavorable (Hall & Patrinos, 2005). However, and despite this general diagnosis, questions related to the implications and causes of ethnic inequality remain unanswered. In education, the last decade has witnessed a growing academic interest in this issue, reflected in an increase in the number and variety of studies addressing ethnic inequality. One relevant example is work on ethnic inequality in Mexico (Creighton et al., 2016). Creighton, Post & Park (2016) compare educational transitions of indigenous and non-indigenous students over 60 years, focusing on the extent to which ethnic inequalities in Mexico are associated with changes in educational policy. The article concludes that indigenous status has lost significance as an independent determinant of educational inequality in Mexico; however, ethnic inequality persists, mainly associated with social origins (p. 1189).

Creating new data sources designed explicitly for assessing educational inequalities in Latin America, incorporating ethnic inequalities, reflects a growing interest in this topic. A prominent example of this is the series of comparative studies produced by the Latin American Laboratory for Education Quality Assessment (*LLECE*, in Spanish) of UNESCO, including PERCE 1997, SERCE 2006, and TERCE 2013, as well as ERCE 2019 (to be released in 2021). These studies seek to assess learning outcomes of students in third and sixth grade across the continent. The most recent available LLECE study, TERCE, collected data on students' performance in language, math, natural sciences, and writing across 15 countries, as well as on other factors associated with the learning process (i.e., family, school, and neighborhood

indicators). According to LLECE-UNESCO, gender, indigenous status, and migration status are vital for understanding educational achievement in the region (UNESCO, 2015, p. 73).

Quantitative scholars have begun using LLECE data for addressing ethnic gaps in education, focusing on topics like parental expectations (Delprato, 2019), peer effects (Izaguirre & Di Capua, 2020), child labor (Levitan & Post, 2017), and Intercultural Bilingual Education (Martel, 2019), among others. However, although TERCE data for each country are statistically representative of students in third and sixth grade, the proportion of indigenous students in the sample does not allow for detailed country-level analyses focusing on the indigenous population in all countries (UNESCO, 2017, p. 98). Consequently, most country-level studies using TERCE focus on Peru and Ecuador, which have the most significant indigenous subsamples.

Purpose of the study

The general purpose of this research project is to broaden our understanding of the educational experiences of indigenous populations in Chile. In Western industrial societies, the dynamics of ethnic and racial inequalities and their impact on education have been widely discussed; however, the specific social, political, and economic dynamics of Latin American history are not equivalent to those of, for instance, the United States. While a full-range comparative educational stratification investigation is out of the scope of one dissertation, this study aims to provide a clearer picture of the situation of indigenous populations in the Chilean educational system, paving the way to a better understanding of the factors and dynamics perpetuating the exclusion of indigenous communities.

This study assumes the perspective of educational trajectories because, as scholars have noted (Pallas, 2003), an exclusive focus on outcomes may convey the idea that education is a linear, continuous process, understating the impact of "turning points" (i.e., pivotal moments like entering high school) along the process. Moreover, Chile has implemented a 12-year compulsory education cycle, and has a mandatory national curriculum, but the country’s educational system is highly segregated by socioeconomic status. Therefore, understanding the persistence of ethnic

inequalities in attainment levels requires a process-oriented standpoint that considers events consequential for students' latter outcomes (Treviño et al., 2016). In particular, the interaction of ethnicity and factors like gender, class, and location when educational transitions occur may shape the persistent inequality in attainment and achievement between indigenous and non-indigenous students. Choosing between academic or vocational education when entering high school, and choosing among types of post-secondary programs and institutions, or among fields of study after graduating from high school, are times in which personal, institutional, and contextual elements interact, eventually affecting latter educational and occupational outcomes.

In addition to ethnicity, this project pays particular attention to the roles gender and location play during educational transitions. I refer to two interrelated dimensions by location: whether a school is in a rural area and the region and commune where it is located. Location is relevant because, despite Chile's geography, 40% of the population lives in the Metropolitan Region, where the capital city, Santiago, is located; thus, this region markedly concentrates education and employment opportunities. Also, almost all socioeconomic indicators show a significant disparity among regions of the country, and education is no exception: regions of Chile vary in attainment and achievement levels and the availability of quality educational institutions (Concha, 2013; Hernández & Raczynski, 2014). Furthermore, urban and rural areas within regions (and sometimes, even within provinces or communes) show radically different realities regarding resource availability, education, and else (Gattini et al., 2014).

Gender disparities have been found across the Chilean school system in terms of achievement (Bharadwaj et al., 2016) and field of study (Bordón et al., 2020); therefore, it is expected that this gender gap is also found among indigenous students. However, it is essential to explore the interaction of gender and ethnicity in that the factors that have been signaled to have a gendered impact in the experiences of Chilean students, such as self-perceived ability, may play out differently for students of indigenous backgrounds, as has been shown for other Latin American countries (Taş et al., 2014). Specifically, analyzing educational data of Mexico, Peru, and Bolivia, Taş et al (2014) found that gender-based gaps in literacy and attainment are

larger for ethnic minorities compared to other groups, indicating that the intersection of gender and ethnicity is associated with cumulative educational disadvantages for ethnic minority women (p. 539).

Research questions

The general inquiry that guides this research project is, *how are the educational trajectories of indigenous students different from the trajectories of non-indigenous students in Chile? What are the roles of socioeconomic status, gender, and location in shaping these different experiences?* I address these questions throughout three separate sets of analyses oriented to provide a thorough description of the situation of the indigenous student population in Chile, taking into account the ways in which different sources of inequality, like gender and location, interact with ethnic-based inequities in the educational system. The results of this study are organized into three different chapters.

Empirical section 1: from middle school to high school, and from high school to higher education

In this chapter, I first explore the transition of indigenous and non-indigenous students that complete 8th grade (the last year of primary school) and move on to secondary education; then, I focus on the transition from high school to higher education. The high school curriculum is divided into an academic track and a specialized, "professional-technical" (vocational) track in the Chilean school system. While the first two years of high school education follow a unified curriculum, students are divided into these tracks starting the third year. Most high schools offer either academic or vocational education, thus choosing a track often involves choosing an institution. Most students make this decision by the time they enroll in the first year of high school. Although a majority of students follow the academic curriculum (72.8% of students, according to 2019 data of the Ministry of Education of Chile, MINEDUC, 2020), a non-trivial fraction of the student population follows the vocational pathway (27.2%). Furthermore, the differences between these two groups are relevant because they involve contrasting formations and long-term

divergent experiences regarding how the Chilean society allocates resources (i.e., income, status).

In the second part of this chapter, I focus on the pivotal moment of completing high school. There are three types of higher education programs in the Chilean education system: academic, professional, and technical. Academic programs are 4-5 years long courses that grant an academic degree (*licenciatura*); professional programs are 4-5 years long courses that grant a professional title (although some of them also offer an academic degree); technical programs are two years long and offer a technical (vocational) degree. On the other hand, there are three types of higher education institutions: universities, professional institutes, and technical training centers. While universities may offer the three kinds of programs previously mentioned, professional institutes can only grant professional (non-academic) and technical degrees, and technical training centers can only offer two-year technical programs.

These institutions vary in tuition costs (universities are the most expensive option and technical training centers the most inexpensive), financial aid available to students, and social desirability or prestige, partly but not exclusively related to labor market returns. Moreover, universities vary in selectivity/prestige levels, as well as in their administration/funding scheme (state-owned and state-regulated; private-owned but state-regulated[1]; fully private). Furthermore, while professional institutes and technical training centers are legally allowed to be for-profit, universities are legally denied that option.

Given the complexity of the Chilean higher education system, in this study, I have opted to focus specifically on the type of program students choose, defined by the type of curriculum and degree they offer. Therefore, and following the classification by type of curriculum in high school, programs will be divided into academic and vocational (technical and professional).

[1] Private universities are subject to different rules depending on when they were created. Those created before 1981 are subject to the same rules as state-owned universities; therefore, the first two categories have in common the use of a national standardized test as the way of admission.

Therefore, this chapter aims to illustrate the different educational trajectories of indigenous and non-indigenous students regarding the type of curriculum they follow in high school and eventually in higher education. Thus, the main question leading this section is: *how do educational trajectories of indigenous and non-indigenous students vary in terms of the type of curriculum they are exposed to (i.e., academic education versus vocational education) in secondary and tertiary education?* More specifically, are indigenous students more likely to follow vocational pathways than non-indigenous students in high school? How is this related to the socioeconomic status of their families, their gender, and their location? How does following a vocational or academic curriculum in high school affect access to higher education and type of program?

Empirical section 2: fields of study in higher education

In the second set of analyses, I will focus exclusively on indigenous and non-indigenous students enrolled in 4–5-year programs in higher education institutions, considering how these two populations differ in terms of the fields of study they choose. Therefore, the central questions in this chapter are: *among higher education students, how do indigenous and non-indigenous students differ in terms of the field of study of the program (major) they choose? Do indigenous and non-indigenous students vary in their likelihood of choosing a specific field? How do their middle school and high school trajectories (i.e., school SES and location; vocational vs. academic high school) relate to their chosen field of study?*

Admittance to college education is different in Chile and the United States in a significant manner: while in the United States, choosing an institution and choosing a major are two completely separate events, in the Chilean system, they are the same, because admission to a university requires applying to a specific program within a specific institution (e.g., sociology at the University of Chile.[2]). Therefore, the transition from high school to college is also the moment

[2] A few universities have implemented broad-scoped programs inspired by the US college system, but they represent a small enrollment fraction.

when youth have to decide regarding the field and discipline in which they aim to become educated.

Many factors can affect the choice for one discipline over another, ranging from the self-perceived ability to expected labor market returns. The literature on gender gaps in education has widely established that factors unrelated to talent and ability tend to limit the access of women to STEM disciplines, which has also proven to be valid for Latin American countries (García-Peñalvo, 2019; Liu et al., 2020). Moreover, evidence indicates that so-called “feminized” professions consistently occupy lower-paying jobs than occupations commonly performed by men (ILO, 2016). However, little is known about how the overall factors impacting women's choice of a discipline affect indigenous women. On the other hand, the relationship between living in a rural or peripheral area and career choices is also understudied. This relation varies among indigenous and non-indigenous students.

Empirical section 3: educational trajectories in times of policy changes

In the last empirical section, I explore the consequences of policy changes in the schooling of indigenous students by comparing their trajectories before and after the introduction of significant policy reforms motivated by the 2011 national student movement. This massive social movement inspired changes in access, financing, and accountability across all levels of formal education. I will specifically compare the transition into higher education of cohorts before and after introducing a complete scholarship program for underprivileged students in higher education, known as the "free-of-charge university reform." This policy began its implementation in 2016, its scope and coverage regarding eligible students and institutions were expanded in 2017 and 2018. Therefore, the 2012 cohort of seventh-graders analyzed in the previous chapters, which began its transition into higher education in 2018, is compared to previous cohorts of students. The specific question guiding this chapter is: *how have the educational trajectories of indigenous and non-indigenous students changed during the past decade? To what extent do recent changes in higher education policy in Chile coincide with changes in access to higher*

education of indigenous and non-indigenous students? Does this association vary by gender, SES, and location?

Relevance of this dissertation

Broadly speaking, this project deals with inequality concerning ethnicity, which has been widely studied in the literature centered on industrial societies. Nevertheless, this project allows the exploration of persistently relevant questions from a new perspective because of the study's setting.

Chile is, in many ways, a peculiar case within Latin America. In a region of primarily low and middle-income countries, Chile is recognized for its exceptional economic progress, expressed in the fact that the country is one of the few in Latin America to have reached the high-income category by OECD standards (Olaberría, 2016, p. 110). Chile's economic progress can be seen in the growth of its middle class (defined as daily per capita income of US$10-50), which increased from 34% to 52% between 2006 and 2015 (OECD/CAF/ECLAC, 2018, p. 232). However, the country's remarkable decline in poverty has not been accompanied by an equally meaningful reduction in inequality (Olaberría, 2016, p. 6). Chile was one of the first countries in the region to implement neoliberal structural reforms that drastically re-shaped economic institutions, the state, and thus the living conditions of the people (Edwards & Lederman, 1998; Nef, 2003). This transformation, initiated unopposed during Pinochet's dictatorship, redefined the provision of public services by shifting from a state-centered welfare system to the privatization of areas such as education, pensions, and health. Particularly in education, the introduction of a voucher system as a means to finance schools, and the liberalization of the higher educational system, meant a decided shift towards family choice as the paradigm for allocating education (Campos-Martínez et al., 2015; Valenzuela & Montecinos, 2017; Bellei et al., 2018). The voucher school system played a significant role in the expansion of school enrollment, which in turn, and in addition to the emergence of private universities, facilitated the inclusion of large portions of the Chilean society into higher education for the first time (Espinoza & González, 2017; Jarpa-

Arriagada & Rodríguez-Garcés, 2017). Nevertheless, studies also show that these reforms consolidated socioeconomic segregation by separating students of different social backgrounds into separate schools, which, in turn, has been associated with the stratification of educational achievement (Mizala & Torche, 2012).

Multiple studies have addressed the particularities of the Chilean school system; however, the situation of indigenous students in this context requires further analysis. While there is a consensus among scholars regarding the overrepresentation of underserved populations in public, resource-deprived schools, the particular experiences of indigenous students in Chile have not been addressed in a way that considers their trajectories, from primary to secondary and tertiary education.

Context of the study

The Chilean educational system

The current structure of the Chilean school system, which consists of eight years of primary education (*enseñanza básica*) followed by four years of secondary education (*enseñanza media*), has been in place since the 1965 educational reform. With this reform, vocational education became part of the school system because it established two types of secondary schools: those that impart a "scientific-humanistic" (academic) curriculum and those that impart a "technical-professional" (vocational) curriculum (Larrañaga et al., 2014). More recently, a 1998 reform changed the structure of the high school curriculum by defining a two-year general curriculum, followed by two years of specialized education. However, most students choose one of the two types of education when they enroll in high school because most of these institutions only offer one type of curriculum (Raczynski et al., 2011; Larrañaga et al., 2014; Arias et al., 2015). The vocational high school track consists of 46 specialties grouped in six areas: commercial, industrial, technical, agricultural, maritime, and artistic; most high schools offer only one of these branches (Arias et al., 2015, p. 2).

On the other hand, the Chilean higher education system includes three types of institutions: universities, professional institutes, and technical training centers. Moreover, these institutions provide three types of undergraduate degrees: academic (*licenciaturas*), professional (four years), and technical (two years). While universities can provide all three types of degrees, professional institutes can only grant professional and technical degrees, and technical training centers only grant technical degrees. Furthermore, while universities can only be non-for-profit, vocational institutions are legally allowed to be for profit. Universities created before 1981 are known as "traditional universities": 16 public and nine private institutions regulated by the state. The dictatorship's 1981 education reform allowed the creation of private universities on the one hand and professional institutes and technical training centers on the other hand.

According to Sotomayor (2015), this reform permitted the unregulated proliferation of private higher education institutions; consequently, during the 1980s, higher education enrollment doubled, primarily because of an increase in vocational institutions enrollment. However, in the early 1990s, policy changes increased regulations over vocational institutions, which stagnated their growth rate; during the 1990s, higher education enrollment kept expanding, primarily because of private universities. By 2010, the higher education system reached the one million students benchmark, reaching 40% of coverage among the 18-21 years old population (Sotomayor, 2015, p. 11).

The massification of tertiary education in Chile was in tune with the expansion of higher education systems. According to González-Velosa et al. (2015), Latin America & the Caribbean's gross enrollment rate in higher education was 17% in 1992, and by 2012 it had reached 43%. During this period, the expansion in Chile was 238%; this expansion was driven by more significant private investments and public policies for access, such as greater financial support for students in Chile, which came with concerns about quality and high levels of indebtedness (González-Velosa et al. 2015, p. 2).

The expansion of higher education's academic and vocational branches has been an uneven process, partly because many of the financial support instruments created have

specifically targeted university students (like scholarships for low-income, high-achieving students in the early 1990s; Sotomayor, 2015). Also, academic education has been the center of policy debates and research at the secondary and tertiary levels, often leaving vocational education in a secondary place. In fact, after the 1990s reform, vocational secondary education has experienced only two curricular updating processes: one in 2013 for the differentiated curriculum (last two years of high school), and one in 2019 for the general curriculum (Arellano & Donoso, 2020). Moreover, the 2011 quality assurance in education law introduced a performance-based classification system for high schools that did not consider the differentiated vocational curriculum. However, this law affects vocational high schools by putting them at risk of closing if they are consistently classified as insufficient; in 2017 and 2018, 117 vocational high schools fell in this category (Arellano & Donoso, 2020).

School enrollment between 2012 and 2019, the period through which the focal cohort is analyzed, remains relatively constant, around 2.9 million in school (Table 1 in the Appendix section). However, the number of students in primary education slightly increases over the years (from 1,962,254 in 2012 to 2,014,806 in 2019), while students in secondary education slightly decrease (from 938,936 in 2012 to 897,736 in 2019). Separating high school students by type of curriculum shows that, across years, about one-third of them are enrolled in a vocational high school, although this proportion decreases over time (from 324,596 in 2012 to 244,480 in 2019). Table 3 and Table 4 illustrate enrollment in higher education institutions in the same period: professional institutes show a significant increase (from 293,519 in 2012 to 379,456 in 2019), while universities oscillate between 55 and 59% enrollment (from 628,902 in 2012 to 676,914 in 2019).

Student selection and segregation in the Chilean school system

In Chile, schools are financed through a voucher system in which school administrators receive a certain amount of money based on average monthly student attendance and adjusted

by type and level of education. In the case of public schools, administrators are municipalities[3], and there is no copay. On the other hand, private schools can receive state funding, and until 2016 they were allowed to charge a copay to the families (Santiago et al., 2017).

According to Bellei et al (2018), Chile is the OECD country with the lowest level of social inclusion in its schools, which implies little variation in socioeconomic status within schools. The introduction of the universal voucher school system in Chile, one of the pillars of the drastic market-oriented education reform of the 1980s, has been associated with the increasing socioeconomic segregation of schools (Valenzuela et al., 2014). The voucher system encompasses family choice, school competition for family preferences, and the autonomy of schools to differentiate themselves in order to compete (Bellei et al., 2018, p. 221).

Only in 2009, with the introduction of the General Education Law (Ley 20.370, 2009), student selection was banned in publicly-funded schools, but only up to sixth grade of primary school. In addition, the introduction of the Preferential School Subsidy law of 2008 (Ley 20.248, 2008), a voucher program for schools serving economically-deprived students, introduced an incentive for schools to end selection. Nevertheless, according to a study by Carrasco et al. (2014), practices of school selection continued. Carrasco et al. found that school principals openly carry out selection processes prohibited by the 2009 law; these sophisticated and diversified practices are not only found in schools in which demand surpasses availability, but also in schools with unfilled slots. Moreover, high-SES, privately administrated, high-achieving schools are the most likely to apply selection practices, and this selectivity increases socioeconomic and academic homogeneity (Carrasco et al., 2014, pp. 45–46).

The combination of a decentralized, market-oriented school system and of student selection practices, in practice, creates a stratified market. Public schools, administered by municipalities and often resource-deprived, are the available alternative for families who cannot access privately-administered schools that select students, either by socioeconomic status

[3] The school system in Chile is undergoing a process of de-municipalization; however, for the analyzed cohorts, municipal administration of public schools was still the norm.

(through tuition and other fees), or by school performance, religion, or other criteria. According to Canales et al. (2016), middle-income families often prefer voucher schools instead of public schools as a way of distancing themselves from low-income families, even if this choice is not justified by academic reasons (i.e., differences in school performance levels).

The School Inclusion Law of 2015 (Ley 20.845, 2015) gradually introduced significant changes to this system. This reform aimed to end school selection by regulating the school admission system, and by prohibiting copay and profit in schools that receive state funds. However, by the time the students in this study enrolled in middle school or high school, these changes had not taken place.

Access to high school institutions across the national territory

In addition to segregation and selectivity, inequality of educational opportunities is also expressed by the distribution of educational institutions across the country, which is uneven. This is to be expected, if we consider that the population's distribution across regions is unequal. Moreover, given the deregulation of education, market forces influence the supply of educational institutions as well. Therefore, the possibility of transitioning from middle school into high school, as well as the choice between an academic or a vocational high school, is mediated by how accessible these institutions are for students.

Because the data available to this study are not geo-referenced, it is not possible to know the distance from each student's household to the nearest schools, which could affect the preference for one type of school over others. However, based on communal and regional school data combined with census data, Table 1 in the Appendix section shows the regional distribution of schools across regions and in relation to the population between 13 and 15 years old. This span is the expected age in which students commonly enroll in high school. The same data disaggregated at commune level is available upon request.

The first columns of this table describe the youth in the defined age window by region and by indigenous status. Regions are ordered according to their geographical location from north to

south (except for the Metropolitan region), which illustrates that the northern and southern regions have larger shares of their total population who identify as indigenous, compared to central regions (the next section expands on this topic). The middle columns of the table present the number of high schools per region, and their proportion of academic and vocational high schools: while all regions have more academic than vocational high schools, the size of this gap varies. The regions with the highest proportion of vocational high schools are *Atacama*, *Araucanía*, *Arica y Parinacota*, and *Maule*; the three first are also some of the regions with the highest share of indigenous students. *Valparaíso*, *Antofagasta*, *Coquimbo*, and *Metropolitana* are the regions with the highest proportion of academic high schools; again, these regions have relatively low shares of indigenous population (Antofagasta's indigenous share is larger, but this region has the lowest indigenous share of the northern regions).

The last columns of this table coincide with Figure 1, which presents the number of high schools per 100 youth (age 13 to 15) living in each region. It is clear that this number varies greatly across regions, not necessarily according to population size. The regions with the largest number of high schools per 100 youth are *Aysén* (0.68), *Los Ríos* (0.67), *Valparaíso* (0.64), and *Tarapacá* (0.61). Nevertheless, while *Valparaíso* is one of the regions with the largest shares of youth (nearly 68 thousand), *Aysén* only has over four thousand 13- to 15-year-old youth (Los Ríos and Tarapacá are more similar to each other, with 14-15 thousand youth).

In sum, distribution of high schools across the national territory is imbalanced. To a certain extent, regions with higher shares of indigenous population and regions with more vocational high schools coincide, however this pattern is not ubiquitous. Also, the ratio of schools to students varies across regions and communes; thus, these elements need to be incorporated in the analyses.

Indigenous peoples in Chile

According to the most recent census data (INE, 2018), 12.8% of the Chilean population identifies as indigenous. Although Chile officially recognizes ten[4] groups of Indigenous peoples, the majority (79.8%) of them identify specifically as Mapuche, distantly followed by the Aymara (7.9%) and the Diaguita (4.1%). It is important to note that indigenous peoples are not evenly distributed across the national territory; on the contrary, different groups are concentrated in specific country regions. For instance, the Mapuche are primarily concentrated in two southern regions that are part of their ancestral territory (18% in *Araucanía* and 13% in *Los Lagos*) and in the Metropolitan region (35%). On the other hand, the Aymara are concentrated in the north of Chile (38% in *Arica y Parinacota* and 31% in *Tarapacá*), part of the Andean region and by the border with Peru and Bolivia.

Moreover, the share of the population that identifies as indigenous varies significantly by region. Of the sixteen regions of Chile, nine have an indigenous proportion more significant than the national-level share (12.8%). Six regions have a proportion of indigenous population of 25% or more; that is, at least one out of four people in these regions identify as indigenous. The regions with the higher share of indigenous population are *Arica y Parinacota* (36%), *Araucanía* (34%), *Aysén* (29%), *Los Lagos* (28%), *Los Ríos* (26%), and *Tarapacá* (25%). On the other hand, the regions with the smaller proportion of indigenous population are *Ñuble* (5%), *Maule* (5%), *O'Higgins* (7%), *Valparaíso* (7%), and *Coquimbo* (9%). In the Metropolitan region, where the capital city *Santiago* is located, 10% of the population are indigenous, although this region concentrates 32% of the indigenous population in the country (INE, 2018).

Further data indicate that indigenous peoples in Chile are in worse socioeconomic conditions than the non-indigenous population. In 2017, income poverty for the indigenous population was 15%, while for the non-indigenous, it was 8%. Multidimensional poverty, which

[4] In 2017, the year of the most recent census, Chile recognized nine indigenous peoples: Mapuche, Aymara, Rapa Nui, Lican Antai, Quechua, Colla, Diaguita, Kawesqar, Yagan/Yamana. In 2020, the country also gave official recognition to the Chango people.

combines education, health, labor and social security, housing, and social networks in one index, was 30% for indigenous peoples and 20% for the non-indigenous population. Furthermore, 55% of the indigenous people who live in rural areas were in multidimensional poverty, compared to 22% of the indigenous living in urban areas. In comparison, 33% of the rural non-indigenous population were multidimensionally poor and 18% of the urban non-indigenous population (MDS, 2018).

Although the National Institute of Statistics produces Chile's official demographic data (through the census and other instruments), the legal recognition of indigenous status for policy-related issues (e.g., subsidies, scholarships) is granted by the National Commission for Indigenous Development (CONADI, in Spanish). The census relies on self-identification for classifying a person as indigenous (individuals are asked whether they consider themselves as members of a particular indigenous group; for a detailed analysis of variations in this question's wording and their results, see Fernández et al., 2018), while CONADI certifies indigenous status based on indigenous ancestry, which has to be proved either by having an indigenous surname or by demonstrating an indigenous “cultural practice” (Ley 19.253, 1993). Consequently, the number of people officially registered as indigenous for policy purposes is smaller than the number of people who identify as indigenous in the census. The data used in this study, which is collected by schools and incorporated into the Ministry of Education's "Students' General Information System" (*SIGE*, in Spanish), relies on information provided by students and their families. Specifically, for each student registered in SIGE, schools must report their ethnicity (i.e., one of the ten officially recognized indigenous groups, or none).

From a policy standpoint, educational policies directly targeting the needs of indigenous peoples in Chile have been scarce, representing only a tiny fraction of the series of reforms addressing the Chilean school system in recent years. A 2005 report by the Economic Commission for Latin America and the Caribbean (ECLAC) of the United Nations finds that educational policy in Chile seldom addresses indigenous peoples. Moreover, the voucher system that finances public and subsidized schools does not adjust for indigenous status, nor is the

national curriculum modified to incorporate more pertinent contents. The only exception is the IBE program created in 1995 consisting of scholarships for indigenous students, teacher training in indigenous culture topics, and investments in school infrastructure; however, this program's budget and coverage are relatively small compared to other Ministry of Education's programs (Noe et al., 2005, p. 10). In 2009, the IBE program was extended to incorporate a curricular component: the Indigenous Language Sector (SLI in Spanish) decree determines that all schools with 20% indigenous enrollment or more must include indigenous language in the curriculum (Treviño et al., 2012, p. 3). However, the effectiveness of this program is confronted by limitations such as the low social value granted to indigenous languages, the lack of normalization of their written forms, and the tendency of schools to focus excessively on the folkloric dimension of indigenous cultures, among others (Treviño et al., 2012, pp. 121–122).

According to the 2017 Census (INE, 2018), of the population between 5 and 19 years old (almost 3.5 million), 15% are indigenous. However, only 5-6% are indigenous among school students, revealing an underrepresentation of indigenous peoples in the school system. Table 5 in the appendix shows the proportion of indigenous students in primary and secondary school for each year in the study. Although the indigenous proportion seems to be slightly increasing over the years (from 5.1% in 2012 to 6.6% in 2019), it is still below the national 15%. On the other hand, there seems to be an equivalent proportion of indigenous students in primary and secondary levels of education.

The proportion of indigenous students who attend vocational high schools across years is more significant than non-indigenous students in the same establishments, according to Table 6. While nearly half of indigenous students attend vocational high schools, only about a third of non-indigenous students follow the same path. In any case, the proportion of students enrolled in vocational education tends to decrease over the years for both groups. For indigenous students, the proportion in vocational schools goes from 52% in 2012 to 45% in 2019, while for non-indigenous students, the share in the same category goes from 34% in 2012 to 26% in 2019.

Regarding gender, Table 7 shows that the ratio of male and female students is similar for indigenous and non-indigenous students, with slightly more male students. This ratio is pretty stable across the years. On the other hand, Table 8 illustrates the imbalance between indigenous and non-indigenous students in terms of rurality: while among non-indigenous students, the urban/rural ratio resembles the national level, among indigenous students, there is a much larger share of rural students. In other words, while among the non-indigenous, urban students are between twelve and thirteen times more than rural students, urban students are only two or three times more than rural students within the indigenous population.

CHAPTER 2: LITERATURE REVIEW

Literature on the inequality of educational opportunity

Since educational systems in western countries experienced their most remarkable expansion, scholars have attempted to assess the extent to which educational opportunities are available for everyone regardless of class origin and the degree to which education is connected to other outcomes as occupational status. The first studies that addressed these questions are known as the status attainment literature, which focuses on the influence of parental occupation on a person's education and occupation. According to Campbell (1983), these models “provide a sophisticated numerical answer to questions about the balance between ascription and achievement at a particular point in time in a society with a particular structure and culture (p. 59).

The status attainment tradition in the United States began with Blau & Duncan (1967). They proposed a path model that connects the father's education and occupation to the respondent's education, first job, and current job. These authors conclude that although ascriptive factors (represented by father's characteristics) impact people's current occupation, achieved factors (represented by education) also play an essential role. Later on, Sewell et al. (1969) expanded Blau & Duncan's model, proposing what would become known as the Wisconsin Model of Status Attainment. Sewell et al. added measures of mental ability, academic performance, significant others' influence, educational aspirations, and occupational aspirations to the original variables. The authors find that social-psychological factors (significant others' influence and aspirations) mediate the effect of parental occupation and education on respondents' education and occupation. The value of the initial status attainment models lies partly in their parsimony: straightforwardly using a handful of indicators, scholars proposed an explanation to the relationship between ascriptive and achieved elements and their impact on social status.

These authors saw education as a mechanism through which upward mobility could be reached. However, this optimistic view confronted relevant critiques. Jencks (1972), for example,

argued that educational inputs (innate ability, family background, schools) and outputs (credentials, years of schooling) have relatively little explanatory power compared to unobserved factors in examining occupational outcomes. They conclude that policies addressing educational inequalities would not make American society more equitable (p. 255).

A critical milestone in the history of educational stratification literature is the work of Mare (1981), which starts what is known as the educational transitions literature. According to Mare (1981), the literature on educational stratification had confused the unequal distribution of education in society (or "distribution dimension") with the influence of family socioeconomic status in attaining education (or "allocation dimension"), and this confusion had led to contradicting findings. In addition to this conceptual distinction, Mare provided methodological specifications that became highly influential for future research. Specifically, he argued that linear models that regress years of education on parents' education and occupation tend to confound the distribution and the allocation dimensions of educational stratification. He proposed a complementary approach based on binary logistic regression to predict successive educational transitions on the same social background variables. This alternative model based on successive logistic regression is better equipped than linear models to predict the effects of the expansion of education because the distribution of socioeconomic groups across educational levels is not linear. Indeed, Mare discusses that the higher the educational level we observe, the more homogeneous individuals become because they have been selected into those higher levels. His work identifies an expansion of education in general, but also an increased impact of family background on the likelihood of progressing to the next grade level, or in the words of Blossfeld & Shavit, "the end result of the process was a reduction in the variance of schooling, an increase in its mean, but little change towards a greater equality in the distribution of years of schooling across social strata" (Blossfeld & Shavit, 1991, p. 4).

The model proposed by Mare, also known as the Sequential Logit Model, has dramatically influenced the educational stratification literature. Notwithstanding its widespread use, Mare's model has also been subject to relevant criticisms, substantive and formal. One

substantive issue with the model is that it operates as if educational trajectories resulted from subjects deciding each year whether to continue their education; as if the process of schooling did not involve long-term planning and expectations. On the other hand, the formal limitations of the model, synthesized by Cameron & Heckman (1998), are associated with unobserved heterogeneity that potentially leads to biased estimates through averaging and selection mechanisms (Buis, 2011, pp. 247–248). All in all, Cameron & Heckman (1998) argue that findings on educational transitions are artifacts of the specifications of the logit functional form assumed in studies following Mare (1998, p. 281) and that these specifications imply myopia on the part of agents, which would be inconsistent with economic theory (p. 263).

Comparative studies have been a fertile field for the literature on the inequality of educational opportunity. Blossfeld & Shavit (1991) compared data from thirteen different countries: the United States, the (former) Federal Republic of Germany, the Netherlands, Sweden, Great Britain, Italy, Switzerland, Taiwan, Japan, Poland, Hungary, Czechoslovakia, and Israel. In general, these studies follow one of the two models identified by Mare (Breen et al., 2009). Blossfeld & Shavit analyze the extent to which the relationship between parental SES and educational opportunities has changed over time. They find that although all countries saw an expansion of their educational system, this expansion did not consistently reduce the association between the social origins of students and their educational attainment (except for Sweden and the Netherlands). They also found that the effect of social origin on grade progression is strongest in the earlier grades; thus, selection by socioeconomic status occurs early on in the schooling process (p. 28). In other studies, this finding is commonly referred to as the "waning coefficients pattern" (Lucas et al., 2011). In any case, early childhood literature indicates that socioeconomic gradients can also be found in earlier life stages, as suggested by the assessment of cognitive development through language skills in five Latin American countries (Schady et al., 2015).

Skepticism about mobility is shared by the findings of Raftery & Hout (1993), who study the Irish case using two national datasets across four birth cohorts. They observe that, although more people in the younger cohorts transition from primary to secondary school, higher education

did not expand as rapidly as secondary education. Overall, the authors point out that the association between social origin and educational attainment did not change across cohorts, which supports their hypothesis of "maximally maintained inequality." MMI means that the expansion of access to secondary education does not imply greater social fluidity, but that barriers to a specific educational level only decline when the higher SES groups have massively gained access to that level - and gained access to the next (p. 42).

The role of schools in achieving equality is at the center of this academic tradition. Baker et al. (2005) challenge the idea that since the influence of family resources on student achievement has grown, schools do not matter. The authors argue that in the "school effects" literature initiated with the Coleman Report, researchers have confused the effects of schooling (the influence on the achievement of being schooled versus not being schooled) with school effects (the effect on academic achievement of going to one school versus another). According to this distinction, Baker et al. argue that it is not that family background has come to have a more substantial influence on mobility relative to schools; on the contrary, the expansion of education and the increase in quality meant that schools are less different from each other. Therefore, if differences among schools are reduced, differences among families become more influential (p. 44).

Beyond confirming the persistence of inequality of educational opportunities, scholars have delved into the circumstances under which inequalities grow or recede. Pfeffer (2008) analyzes differences among countries in the association of social origins and educational attainment by linking these differences to variations in the institutional setup of national education systems (p. 544). The author confirms the trend of persistent inequality across the twenty countries in the study (i.e., a strong association between parental education and their children's educational outcomes). In addition, the extent to which educational opportunities are stratified at the secondary level "is negatively and strongly associated with educational mobility" in that rigid systems with dead-end educational pathways "seem to be a hindrance to the equalization of

educational opportunities, especially if the sorting of students occur early in the educational career" (p. 556).

The persistent inequality finding is challenged by Breen et al. (2009), whose article is a response to the work by Blossfeld & Shavit. Using data from nine European countries (Germany, France, Italy, Ireland, Britain, Sweden, Poland, Hungary, and the Netherlands), the authors used ordered logit regression instead of following Mare's successive binary logistic regressions. In their findings, the authors report a massive increase in educational attainment (p. 1485) as well as an apparent decline in educational inequality in several countries over the 20th century. They find that this decline is most evident and widespread in the improved position of children from farming and working-class origins, the most disadvantaged classes. Furthermore, they argue that the substantial reduction in class origin effects at the transition to secondary education significantly reduced educational inequality in all countries (pp. 1513–1514).

Conversely, Lucas et al. (2011) join critical voices of Mare's transitions approach, arguing that this "workhorse of the comparative study of educational stratification" is ill (p. 271). By applying a neo-classical approach to the study of the completion of high school and the start of college across three cohorts, the authors conclude that socioeconomic background coefficients do not wane across the transitions studied. Therefore, they challenge the waning coefficients pattern and the idea that the US education system tends toward egalitarianism (p. 281).

To this point, the assortment of studies described offers contrasting evidence regarding the effectiveness of education as an instrument for social mobility or social reproduction. While some, like Jencks, Mare, Blossfeld & Shavit, and Raftery & Hout, underline the increased influence of family background on educational opportunities, others like Baker et al. and Breen et al. present evidence of greater equality of opportunities. Recent studies have opened alternative paths to understand these conflicting findings. Pfeffer & Hertel (2015) use United States' data on men from 29 repeated cross-sectional surveys from the General Social Survey (GSS) in order to test the hypothesis of the "compositional effect." This premise originates from a 1988 article by Hout, in which he concludes that the effect of origins on destinations varies by level of education.

In the case of college graduates, the current occupational status becomes independent of origin status. Pfeffer & Hertel refer to the OED triangle (the relationship between the social origin "O," educational attainment "E," and social destination "D") using different statistical models in order to test the influence of each leg of the triangle ("OE," "OD," "ED"), teasing out the contribution of the compositional effect. In general, the authors find a modest but linear decline in the association between class origin and destination (OD) across cohorts; stability in the association between class origin and educational attainment (OE); and directionless fluctuation in educational attainment and class destination (ED). In addition, they find strong support for the compositional effect (p. 158), which simply means that reductions in the impact of family background on social status are primarily due to the equalizing effect of college degrees.

Overall, scholars agree that today, many more people attain secondary education than before, and access to a college education has also increased. However, diverging findings allow for a prolific debate; one example is the conversation between the credentialist hypothesis and the compositional effect theory. While both perspectives highlight the role of college degrees in society today, the credentialist view argues that employers focus on credential-holders because credentials signal an elite cultural status (Collins, 1979). On the other hand, the compositional effect model finds that the association between family background and social status is weaker for college graduates compared to less-educated individuals. Possibly, a path towards building a consensus regarding the effect of schooling is incorporating other dimensions, traditionally excluded from comparative studies of educational stratification. Park (2008) includes parental involvement, a form of social capital, in his analysis of PISA data from 14 different countries, classified according to how standardized is their educational curricula. Park finds that the impact of parent-child communication (one type of parental involvement) on achievement varies by socioeconomic level and type of educational system. For highly standardized educational systems, the overall communication between parents and children is more beneficial to lower SES students. On the other hand, parent-child communication and family SES interaction is positive in all countries with non-standardized systems.

So far, in this section, I have presented the main trends in the literature on the inequality of educational opportunity. While in some cases, the conflicting findings are the result of methodological disagreements among scholars, in other cases, nuances come from focusing on different dimensions of educational stratification. For instance, some authors concentrate on the intergenerational transmission of advantages and disadvantages, while others highlight group or country-level variations in attainment at a given time. A different approach deals with the relative importance of different dimensions in shaping the educational stratification regime, for instance, scrutinizing the influence of school versus family background on educational outcomes. One perspective particularly relevant for this study is, beyond differences in attainment, the stratification that emanates from the sorting of students into separate groups within the same educational level.

The horizontal dimension of educational stratification

Initially, the transitions approach inaugurated by Mare focused on variations in attainment, that is, on the progression from one grade to the next. Nevertheless, subsequent studies took into account that, even within the same education level - or the same level of attainment -, students may be placed into separate groups that eventually become diverging pathways and outcomes. This horizontal dimension of stratification has been broadly defined as qualitative differences within one educational level and is commonly constructed as separate classrooms, tracks, or even institutions (Breen & Jonsson, 2000; Gerber & Cheung, 2008; Triventi, 2013).

Breen & Jonsson (2000) challenge the idea that progression in schooling is a unilinear sequential process because many school systems contain parallel branches of study (p. 754). In order to better incorporate these branches, the authors propose a methodology based on a multinomial transitions model, analyzing whether previous particular educational pathways influence later transitions and whether class origins affect the probability of choosing a particular path (p. 755). The authors find that an academic secondary education is associated with a

greater chance of going to college; however, the probability of transitioning from secondary to tertiary education varies by class. Therefore, Breen & Jonsson conclude that class-origin effects on transition probabilities vary according to the particular choices made in each transition, and that the probability of making a particular choice varies depending on the pathways students follow (p. 771).

In the same direction, Lucas (2001) aims to advance research on educational transitions by connecting this perspective to the literature on tracking. The transitions literature has explained the "waning coefficients pattern" either by signaling that youth become more autonomous as they grow (life-cycle perspective) or by showing social origin effects on an education level become less salient once the upper class has gained universal access to it (maximally maintained inequality, or MMI). The tracking literature adds to this tradition by showing that separating students into qualitatively different paths is currently "activated in many separate, yearly, subject-specific decisions rather than in one global assignment" that happens once in a student's career (p. 1649). In this article, Lucas proposes the hypothesis of "effectively maintained inequality" (EMI), which asserts that "socioeconomically advantaged actors secure for themselves and their children some degree of advantage wherever advantages are commonly possible" (p. 1652). EMI means that as long as one level of schooling is not universal, the upper class will seek to secure that level of schooling. However, once that level becomes universal, "the socioeconomically advantaged seek out whatever qualitative differences there are *at that level* and use their advantages to secure quantitatively similar but qualitatively better education" (p. 1652). In other words, while the MMI hypothesis assumed class competition between families stopped when a certain schooling level became universal, the EMI hypothesis proposes that competition continues. However, at that point, it becomes about the type of education attained (i.e., quality or status).

The MMI and the EMI hypotheses have been used to assess the impact of educational policy reforms. Ayalon & Shavit (2004) analyze the impact of the 1990s reforms implemented in Israel to raise eligibility rates of disadvantaged groups for the matriculation diploma, which is a

prerequisite for admission to tertiary education in that country. This diploma, called *bagrut* in Hebrew, is differentiated into a university-qualifying diploma and a plain diploma; each form gives access to different types of higher education. Universities are regarded as higher status and are associated with greater rewards in the labor market than other forms of post-secondary education. Therefore, the authors argue that the two types of diplomas are qualitatively different, i.e., this is a form of horizontal stratification. Findings from this study are consistent with the EMI hypothesis because reforms seemed to equalize access to the plain diploma for underrepresented groups but not for the university-qualifying diploma; therefore, even within the same level of attainment, privileged groups maintain their advantage *horizontally*.

Highlighting the complementarity of MMI and EMI, Hout (2006) asserts the pertinence of both perspectives for understanding educational stratification cross-nationally. The author used International Social Survey Program (ISSP) data for 25 countries, finding that educational attainment has increased across countries and cohorts, although at varying rates. Interestingly, this comparative analysis finds support for MMI in market economies but not in transition economies of formerly socialist nations. Hout interprets his findings as supporting the premise of MMI/EMI that educational stratification results from individual interests (i.e., parents, students, and other agents) and not of the coordinated action of collectives such as social classes. More importantly, the author argues that these hypotheses "point out to universal access as a key to removing class barriers" (p. 249).

A cross-cutting issue in the contemporary literature on horizontal stratification in higher education systems is how expansion relates to social inequality. By analyzing data from fifteen mostly high-income countries from Europe, Asia, and North America, Arum, Gamoran & Shavit (2007) explore this relationship and how processes of differentiation and privatization affect access to higher education. The authors find support for the MMI hypothesis since the expansion to the point of saturation in some countries is associated with declining inequality. Moreover, there seems to be an association between expansion and differentiation because countries with diversified systems of higher education exhibit higher levels of enrollment than binary systems.

On the other hand, binary systems tend to divert disadvantaged students from higher education in general and from the first tier.

Regarding privatization, countries with greater private sector involvement tend to expand more rapidly and diversify more. The authors observe that the effects of privatization are mixed and end up canceling each other: on the one hand, privatization is associated with greater expansion, thus more access; on the other hand, reliance on private funding increases enrollment costs. Overall, Arum et al. conclude that there is more support for HE expansion leading to inclusion (lower-SES students gaining greater access to higher education) rather than to diversion (disadvantaged students being diverted from HE or the more prestigious and rewarding versions of it) (pp. 27-28).

Lastly, Triventi et al. (2013) use data from eleven European countries to assess the extent to which social origins - more specifically, parental education - impact vertical and horizontal stratification in higher education. The authors conclude that there is a strong association between parental education and the likelihood of graduating from institutions and programs that grant the best rewards (i.e., extended programs instead of short ones). However, parental education is not associated with enrolling in a Ph.D. program. This study also finds that students with more educated parents are more likely to graduate from top institutions and a more prestigious field of study, although this last effect is less marked. Furthermore, from a macro-level perspective, the authors conclude that social origin matters more in countries with stronger competition among tertiary graduates in their transition to the labor market. The best educational alternatives lead to more significant occupational advantages (p. 499).

Other approaches to horizontal inequities

Undoubtedly, thinking about horizontal stratification involves reflecting on the organizational and other characteristics of schools. According to Bidwell & Kasarda (1980), research on *school effects*, or the study of the effects of school attributes on educational or occupational outcomes, commonly cover two different topics: schools as organizations that

conduct instruction, and schooling as the process through which instruction occurs (p. 402). The authors argue that previous research has tended to confound these two levels, thus producing contradictory findings. They advocate for a more precise, social organizational approach to schooling that focuses on how the social organization of instructional units within schools affects resource distribution (p. 413).

Following Bidwell & Kasarda's suggestion, some researchers have focused on how tracking, or the practice of sorting students into groups according to ability or achievement, unevenly allocates students into different experiences of schooling. Oakes (1985) provides one of the earliest critiques to tracking, arguing that the main argument that supports this practice – that students learn better when surrounded by other students of similar achievement levels – is an unfounded assumption. Oakes affirms that, in practice, tracking separates students along socioeconomic and racial/ethnic lines, resulting in poor and minority children concentrated in bottom tracks. In these tracks, "they are likely to suffer far more negative consequences of schooling than are their more fortunate peers." (p. 40). Using nationally representative, longitudinal data on high school students, Gamoran (1987) supports this approach by demonstrating that the primary source of inequality in achievement is within-school differences, more than between-school differences. Gamoran specifies that within-school differences are linked to tracking and that students in higher tracks have access to more advanced courses.

Challenging the argument of Oakes and Gamoran that tracking reproduces educational inequality, Hallinan (1996) tests how permanent track allocation is. Using longitudinal, administrative data on high school students, she finds that tracking mobility is more common than expected, and it is slightly more likely to occur upwards. Nevertheless, Diamond (2006) argues that the racial inequality of educational opportunities is reproduced by the combination of in-school factors like tracking, which often separate students along racial lines; out-of-school factors such as unequal family and community resources; and the presence of social stereotypes in and out of schools. Moreover, Sullivan et al. (2018) synthesize findings from qualitative and quantitative studies of the United Kingdom that address inequalities regarding the educational

curriculum students are exposed to. The authors observe that "social class matters for gaining access to highly-valued curricula, and this does not simply reflect differences in prior attainment" (p. 4) because working-class students, as well as working-class schools, are often channeled into a less academic curriculum. This conclusion, they argue, is consequential because curriculum differences affect educational transitions, even when controlling for overall attainment: "subject 'choices' taken at a young age have the potential to cast a long shadow over young people's educational careers" (p. 4).

Other scholars have attempted to assess the impact of attending one type of school instead of another (what Baker et al. call the true "school effects" literature, see (Baker & LeTendre, 2005) on educational attainment and achievement. Attewell (2001) argues that, against what it could be expected, enrolling high-achieving adolescents in "star high schools" – the more selective high schools in the country – harms their chances of being admitted into selective colleges because college admission processes take into account class rank. Considering that rank is a zero-sum resource, students in "star high schools" face a harsher competition for the scarce good of being admitted into selective colleges (p. 291). Using NELS data to study the impact of racial/ethnic composition, Goldsmith (2003) finds that, although it is commonly assumed that segregation is harmful to minority students, Black students and Latino students' test scores do not follow the same pattern. Goldsmith observes that the proportion of Latino students in school is associated with a positive effect on the test scores of Latino students. In contrast, the proportion of Black students in school does not seem to associate with Black students' test scores (except for a negative effect on science scores).

Furthermore, Logan et al. (2012) argue that there is a critical level of inequality among racial and ethnic groups in the United States regarding educational opportunities because persistent school segregation means that most Black, Hispanic, and Native-American students tend to concentrate in poverty-ridden, low-performing schools. Further, institutional cultures and practices in schools can produce radically different opportunities to learn in the same schools for minoritized students, compared to others: as illustrated by Carter, social and symbolic boundaries

in schools impede the development of cultural flexibility, which could facilitate the incorporation of minority students in mixed schools (Carter, 2012). Moreover, Tyson (2011) shows that racialized institutional tracking structures can produce stigmatization of good academic performance for minority students. In racially mixed schools, high-achieving Black students face an increased potential for ridicule from their peers when the schools they attend are characterized by "racialized tracking" (Black students concentrated in lower tracks) (p. 124).

Vocational education and training

One typical form of horizontal stratification found in most countries is vocational education, which often exists at the secondary and tertiary education levels. Vocational education and training (VET) is one commonly used denomination, particularly in Europe, although there is no internationally agreed definition of VET. However, a 2016 survey of experts in the European Union suggested that VET is seen as "occupation-specific education and training designed to secure the supply of skilled labor," and it is rated as inferior to academic education (Kleinert & Jacob, 2019, p. 285).

Kleiner & Jacob (2019) argue that there are three intertwined discussions regarding vocational education in the field of sociological research. First, VET is criticized for reproducing social inequality from a social stratification viewpoint by channeling low-SES students into medium-skilled jobs, keeping them away from higher education (which has come to be known as the diversion hypothesis). Secondly, others praise VET for producing a smooth transition to the labor market, particularly for lower-educated youth (the inclusion hypothesis). Thirdly, this advantage of early access to the labor market, a result of the high usability of VET skills, may make workers too inflexible in the long run to adapt to changing working conditions and skills requirements (p. 284). Based on data from a selection of European countries, the authors find significant heterogeneity, mainly between countries with school-based vocational education and those with programs that combine school and workplace learning. Also, they observe significant variation regarding the share of students enrolled in VET relative to academic education (p. 287).

The authors coincide with the idea that VET diverts low-SES students from higher education regarding the discussions mentioned above. However, there is also evidence that VET helps prevent dropout among disadvantaged youth (pp. 294-295). Secondly, vocational education does operate as a safety net securing access to labor, but this depends on the institutional setup of VET: higher levels of employer involvement in the system are associated with a higher market value of vocational qualifications. However, this involvement may harm the chances of low-achieving youth being selected in vocational programs (p. 295).

Given the ubiquitous trend of disadvantaged students concentrating on less valued educational pathways relative to their better-off peers, a critical focus in the literature is the decision-making process that leads students into academic or vocational education. Interestingly, Kurlaender & Hibel (2018) point out that these are "constrained choices" because they relate to "an interplay between structural forces and individual decision-making, which we argue ultimately shapes students' educational pathways" (p. 361). Relying on qualitative interview data from eight European countries, Walther et al. (2015) analyze decision-making among disadvantaged students that finished lower secondary education, identifying three central dimensions shaping different patterns of educational trajectories: “ruptures” during educational trajectories (changes or deviations from conventional trajectories); “destinations” after lower secondary education (imagined future or expectations); and the degree of “choice” experienced in the transition from lower to upper secondary education (or connections between past experiences and the imagined future) (pp. 354-355).

Based on their regression analysis of transitions into secondary and tertiary education using the Korean Education and Employment Panel (KEEP) database, Byun & Park (2017) find that, similar to other regions of the world, South Korea shows socioeconomic differences in the likelihood of attending a vocational or an academic high school. However, predicted probabilities show that even disadvantaged students typically choose academic over vocational education. Furthermore, regarding the transition to college, the authors also find socioeconomic differences in the chances of making this transition. Moreover, disadvantaged students are more likely to

enroll in two-year colleges; however, when controlling for high school track (vocational or academic), students who attend an academic high school typically choose a 4-year university, regardless of their socioeconomic status (p. 109). Based on this evidence, Byun & Park underscore the importance of prior trajectories in understanding higher education enrollment patterns.

Community colleges in the United States

In the United States, about one in four high school graduates enroll in a community college. However, the relevance of community colleges goes beyond their coverage: according to Dougherty et al. (2017), these institutions have a vital and challenging role because they serve as "second chance" institutions for people who, for varying reasons and in different times of their lives, did not obtain a bachelor's degree from a four-year university. Community colleges are meant to be mass-access institutions; they offer a wide variety of programs and credentials, charge lower tuitions than most other institutions, admit students even if they lack conventional college qualifications, and operate in the evening and on weekends in many places as well as online. In addition, they attract many more students of disadvantaged origins, racial and ethnic minorities, and of older age than to public and private universities (p. 5)

It is a known fact that community colleges enroll far more students in need of academic support than other institutions; correspondingly, they operate sizable programs in remedial and developmental education, English as Second Language, adult education, among others (Dougherty et al., 2017, pp. 2-3). Moreover, students in community colleges vary widely in their age, educational background, and purpose of participation (whether their goal is to obtain a certificate, a two-year associate degree, or a four-year bachelor's degree) (Kurlaender, 2006, p. 9). Accordingly, community colleges are subject to the same question posed for other versions of non-academic education in the world: are they producing diversion or inclusion for underserved communities? Kurlaender (2006) explores the factors that influence the high rate of Latino enrollment in community colleges in comparison to their white and African American peers: the

author observes that Latinos are more likely to enroll in community colleges than four-year institutions; this difference persists even when other factors are held constant; also, the difference exists when comparing Latinos to both whites and African Americans (p. 10).

A potentially equalizing function of community colleges is transferring students into four-year colleges to obtain a bachelor's degree. However, Gándara et al. (2012) assert that these transfer rates are low, especially for Black and Latino students (p. 5). The authors study community colleges that successfully transfer students from low-performing high schools into 4-year colleges to uncover practices that support their achievement. On the one hand, Gándara et al. observe that community colleges that successfully transfer African American and Latino students are not the same with a reputation of successfully transferring in general, but are those who offer cultural support since they are dedicated to serving that specific population. Also, they highlight the importance of outreach programs for attracting students who may not approach on their own. On the other hand, support programs and counseling, which are often signaled as highly relevant for helping underserved students thrive, in practice serve very few students; thus, their impact is modest. Finally, the authors underscore the critical need for remediation, particularly developmental education (pp. 100-105).

Furthermore, Reynolds (2012) studies the impact of entering higher education through a two-year community college on obtaining a four-year college degree. Using NELS88 data, the author performs regression analyses predicting a series of educational and labor market outcomes: retention to the second and third year, total credits earned, degree completion, and initial earnings (p. 348). Reynolds finds a substantial and adverse effect of initial attendance at a two-year college on most measures of educational attainment, even for students who expected to complete a bachelor's degree. The author finds that the probability of completing a bachelor's degree is lowered by about 23% for men and 25% for women (p. 346).

Focusing on the California community college system, Kurlaender & Larsen (2013) analyze the effect of school achievement on college performance. By tracking five cohorts of California high school juniors into their freshmen year at in-state community colleges, the authors

identify persistent ethnic and racial disparities in first-year course-taking and grades. Indeed, white and Asian students have higher rates of transfer-level course-taking, lower rates of basic skills course-taking, and higher grades than African American and Latino students, controlling for prior achievement (p. 16). On the other hand, they conclude that much of the variation in course-taking is a between-campus phenomenon; in other words, campuses of the community college system in California offer significantly different pathways for students with similar prior high school achievement (p. 17).

Vocational education in Chile

Recently, well-needed studies have been published addressing the often-ignored situation of vocational education in Chile. While previous studies had pointed out the historic lack of public funding for vocational education and the large income gap between the academic and vocational tracks (Sánchez & Escudero, 2008, p. 18), more recent publications have significantly expanded our knowledge on the trajectories of vocational students. Larrañaga et al. (2014) use administrative data to analyze students' educational and work trajectories in their second high school year in 2003. The authors find that vocational high school students often come from the lowest income quintiles and are in the lowest score ranges in standardized performance evaluations in primary school. Larrañaga et al. find that low-income students often opt for vocational high schools, regardless of their school performance (pp. 18-19).

According to the study by Larrañaga et al., a vast majority of vocational high school students are either in public (48%) or publicly subsidized (40%) institutions, and their distribution by socioeconomic status is relatively even, in contrast to academic high school students, who are highly segregated. Regarding students' performance, standardized tests (SIMCE) and university entry exams (PSU) show that gaps are more prominent at the higher levels; on the other hand, vocational high schools have higher retention rates than academic high schools (pp. 24-27).

The choice for a vocational high school over an academic institution is associated with socio-demographic variables, socioeconomic level, and the availability of different institutions in

the commune (Catalán, 2016). Attitudes and expectations also play a role in this decision since prioritizing academic factors when choosing a high school is associated with choosing the academic track, while prioritizing rapid access to the labor market is associated with choosing the vocational track (p. 315).

From a qualitative perspective, Razcynski et al. (2011) address the transition from middle school to high school in a sample of low-income communes of the *Araucanía* region. This report is especially relevant for this study because this region has a large share of the indigenous population, particularly Mapuche people. Raczynski et al. find that vocational high schools are very homogeneous in SES, mainly serving students from low-income families and public schools. Moreover, the authors argue that low-income families value vocational high schools because they provide immediate access to labor; thus, these students self-exclude from higher education at an early age (p. 16). In addition, teachers consider that although higher education aspirations have increased among vocational students, these expectations are unrealistic, and often teachers assume the role of bringing students down to earth (p. 45).

The authors argue that students and their families count on limited information and resources for choosing one type of high school. They are often unaware of other alternatives, have misguided information, or lack resources for paying enrollment fees or moving to a different district (which mainly affects rural families) (p. 76). Furthermore, Raczynski et al. indicate that for low-income families, quality in high school institutions is understood as either a school that provides good training for the university entry exam (PSU) or that guarantees access to the labor market (p. 48). They argue that academic education is undervalued among some low-income families because "it does not give you anything," meaning that it does not grant a technical degree like vocational education (p. 52). Therefore, a preference for vocational high schools is associated with greater security; the academic track is seen as a transition towards higher education, which extends the education process and delays access to the labor market (p. 53).

Regarding access to higher education, the Larrañaga et al. study shows that although parental expectations are higher among academic high school students, among vocational high

schoolers, parents' expectation of pursuing higher education still surpasses 50%. The authors argue that 41.4% of vocational high school graduates enroll in higher education; therefore, this track cannot be considered a terminal stage (p. 29). Research by Catalán (2016) and Sepúlveda (2016) arrive at the same conclusion. Nevertheless, 62% of vocational high school graduates enroll in vocational institutions; in contrast, 67.1% of academic high schoolers enroll in higher education, and 70% do so in universities.

Another relevant difference is that most academic high schoolers enroll in higher education immediately after completing high school or one year later. On the other hand, only half of the vocational high school graduates enroll in high school during this lapse of time. The authors suggest that this might be due to vocational students' early start in the labor market (Larrañaga et al. 2014, p. 31). Regarding quality, vocational high schoolers tend to enroll in institutions with fewer years of accreditation and have higher desertion rates than academic high schoolers in higher education (33% versus 19%) (p. 32). However, this gap is reduced by more than half when controlling for SES and type of institution, suggesting that it is associated with low SES and enrollment in vocational institutions. Lastly, among vocational high schoolers, higher education desertion is lower among working students (p. 33).

Lastly, about the labor market experiences of the studied cohort, Larrañaga et al. find that six years after completing secondary school, vocational high school graduates show higher employment rates and more work experience than academic high schoolers. Vocational graduates also show higher incomes, but this gap disappears when controlling for labor experience, gender, and SES (except for technical training center graduates) (pp. 36-37). On the other hand, there is a more significant gender income gap among vocational high schoolers associated with years of labor experience and specialization. Male students are more represented in high-paying areas (pp. 41-42).

Other studies have confirmed the findings of Larrañaga et al., adding relevant information: an Interamerican Development Bank report of 2015 provides a thorough assessment of vocational secondary and tertiary education in Chile (Arias et al., 2015), finding that vocational

higher education enrollment grew in 247% between 2000 and 2011(p. VI). This report finds that the number of vocational high schoolers who take the university entry exam has increased. However, evidence shows that vocational high school education might reduce the likelihood of pursuing a university degree, even among high-achieving students; this finding raises concern about vocational education possibly maintaining social stratification by limiting mobility (p. 12). Catalán (2016) coincides with this by arguing that a vocational high school education reduces the likelihood of applying to traditional (pre-1981) universities, even when controlling for academic ability (p. 315).

Other relevant limitations of the vocational education system in Chile are the lack of continuity between vocational high school specialties and vocational higher education programs (p. 5). In addition, returns to vocational tertiary degrees, although positive on average, are tremendously heterogeneous: for many of these graduates, their returns are negative (p. 5). Based on her study of returns of technical training center graduates, Sotomayor (2015) also concludes that economic returns for these degrees are highly heterogeneous (from -262% to +70% in her analysis). Indeed, 29% of enrollment have negative returns, indicating that a fraction of TTC graduates fare worse than if they had not pursued higher education (p. 77). In any case, Arias et al. also affirm that, for some technical degrees, returns can surpass those of academic degrees in the same field (p. 6).

Arias et al. also point out that the system's rigidity makes it difficult for students to move between academic and vocational high school curriculums (p. 13). At the higher education level, accredited technical programs' returns are not significantly higher than returns of non-accredited programs, which suggests that the higher education quality assurance system does not pay enough attention to non-university institutions. Furthermore, the vocational higher education system is tremendously concentrated: of 54 technical training centers, three concentrate 66% of the enrollment, and of 39 professional institutes, four concentrate 63% of the enrollment in this group. Moreover, the institutions that concentrate the vocational enrollment are not necessarily those with the highest returns (p. 15). Additionally, citing a study by Rau, Rojas & Urzúa of 2014,

the IDB report warns that financial policy instruments may have mixed effects on vocational education: they argue that the State Guaranteed Loan[5] (CAE, in Spanish) reduced technical training centers and professional institutes' desertion rates by 32%, but this policy may have incentivized lowering academic rigorousness to increase enrollment and retention since beneficiaries of CAE show lower returns than non-beneficiaries (p. 16).

In sum, Chile's differentiated high school system coincides with the comparative literature's definition of horizontal stratification, because although vocational secondary education was initially conceptualized as a fast route leading to the labor market, it is no longer a terminal stage in education, since a growing number of vocational high schoolers aspire to, apply to, and enroll in higher education programs (Larrañaga et al. 2014, Catalán 2016, Sepúlveda 2016). Therefore, both academic and vocational high schools are parallel, albeit qualitatively different, types of secondary education. However, the vocational track involves several challenges: institutional weaknesses, limited financial support, large proportions of students from disadvantaged backgrounds, and varying (and sometimes negative) returns in the labor market.

Racial and ethnic inequalities in the educational stratification literature

Comparative studies offer the advantage of providing information that transcends countries' particularities; nevertheless, they pose the challenge of needing to harmonize data and indicators. In fact, racial and ethnic inequalities are seldom the focus of comparative studies because ethno-racial stratification systems are the complex result of historical, global, and local dynamics whose expressions are highly contextual. Therefore, most literature on racial and ethnic inequalities in education is circumscribed to specific countries or regions. Furthermore, according

[5] The State Guaranteed Loan (*Crédito con Aval del Estado*, or CAE in Spanish) is a higher education financing program introduced in Chile in 2005. This program supplements the traditional (state-administered) university loan previously existing, which was restricted to students of public and pre-1981 private universities. Both loans require being in the four lower-income quintiles and having a minimum PSU score of 475 points. The CAE was originally very similar to other conventional loans available in the market and is provided and administered by private banks, which are entitled to use all available legal mechanisms for collecting debt, including releasing information to credit score institutions, asset impoundment, and judicial collection. Also, the real interest rate of CAE was about 6% per year, compared to the 2% of the traditional loan program (Solis, 2017, pp. 568–571).

to Nauck (2019), the use of the terms "ethnicity" and "ethnic inequality" is inconsistent in research on educational attainment and achievement. The author points out that these terms usually refer to migrants; thus, some studies use ethnicity interchangeably with nationality or race (p. 499).

Not surprisingly, the debate on whether educational systems serve to add historically excluded communities to those benefited by credentials and instruction or whether they perpetuate inequality by diverting those communities from the more rewarding pathways. Nauck (2019) presents this dilemma by stating that, on the one hand, the more the educational system realizes its meritocratic principles, the more it is a socially accepted mechanism of social integration of individuals from ethno-racial minorities. However, on the other hand, the more the status allocation of an educational system enforces an ethnically segmented system of social inequality, the more it reinforces existing social distinctions along ethnic or racial lines. This paradox, for Nauck, relates to the question of how educational attainment, as part of the meritocratic system, intersects with interethnic relations (p. 513).

In the United States, racial and ethnic educational gaps have decreased over time, but they are a persistent reality. According to Reardon (2011), while the 1950s and 1960s were characterized by low levels of income inequality and high levels of racial inequality in education, the achievement gap between children from high- and low-income families has grown substantially in recent decades, to the point that now the income achievement gap is considerably larger than the Black-white achievement gap. The author adds that while racial disparities are still evident in many aspects of the U. S. society, these disparities are in many ways smaller than they were fifty years earlier (p. 25).

Inspired by the societal processes that lead to the Civil Rights Movement, the Coleman Report (1966) measured the striking extent of the white-black attainment gap. Interpretations to this persistent type of inequality range from the controversial cultural and psychological explanations of the 1980s and 1990s – "the burden of acting white" (Fordham & Ogbu, 1986); the "oppositional culture" of forced migrants (Ogbu, 1991); or the "attitude-achievement paradox" (Mickelson, 1990) – to multidimensional explanations like the segmented assimilation theory

(Portes & Zhou, 1993). More contemporary studies emphasize institutional and cultural aspects of education, highlighting the relevance of alternative forms of capital (Carter, 2003, 2005). Some stress how school cultural environments may soften or reinforce ethno-racial boundaries (Carter, 2012). Others highlight the impact of a student-teacher racial mismatch (McGrady & Reynolds, 2012), as well as the relevance of social capital and immigrant communities in students' performance (Kao & Tienda, 1995; Stanton-Salazar & Dornbusch, 1995; Stanton-Salazar, 1997; Kao, 2004; Zhou & Kim, 2006). Finally, scholars have stressed the importance of social context and background in shaping apparent racial and ethnic gaps in education in the United States (Massey et al., 2003).

Based on a review of the literature on ethnic and racial stratification in attainment and achievement, Kao & Thompson (2003) conclude that while some evidence suggests that racial and ethnic gaps at the lowest levels have improved, some racial and ethnic patterns are more apparent at the highest levels of achievement. More notably, the authors point out that using broad racial comparisons may obscure the considerable degree of heterogeneity found within pan-ethnic groups (p. 435). Accordingly, they conclude that "given the greater cultural heterogeneity of students in the United States, researchers need to consider that a single model of achievement may not suffice. Immigrant and minority families may work differently in translating aspirations into achievement and attainment. Although parental SES accounts for a substantial portion of the racial and ethnic gaps in achievement and attainment, there is a place for explanations that do not rely solely on social class" (p. 436).

Focusing on the trajectories of immigrant children of the post-1965 era, Rumbaut (2005) uses data from the Children of Immigrants Longitudinal Study [CILS] in California to analyze how different indicators relate to the post-secondary educational attainment of the one-point-five and second-generation immigrants of Latin American and Asian origin. In particular, the author argues that incarceration (for young men) and childbearing (for young women) have emerged as turning points that "can derail life course trajectories by blocking or disrupting educational and occupational opportunities to develop human capital and move into the economic mainstream" (p.

1043). The author finds evidence of significant upward mobility from the foreign-born to the US-born immigrant generations; however, there is significant variation in attainment by national origin and by gender (p. 1083). Moreover, he finds strong associations between low levels of education and high rates of incarceration (among men) and early childbearing (among women), which in turn is associated with diminished occupational and economic success, "in a spiral of cumulating disadvantage and downward mobility" (p. 1083).

Brinbaum & Kieffer (2009) study educational trajectories in France, seeking to understand how the children of immigrants use the opportunities entailed in a system with differentiated vocational and academic tracks (pp. 507-508). The authors consider individual, familial, contextual, and psychosocial factors and follow the educational trajectories of immigrant students of different national origins across their secondary education until the baccalauréat (a qualification that permits access to universities) (p. 510). This analysis involved two series of logistic regressions, one comparing the choice of an undifferentiated rather than vocational year 10, and the other comparing the choice, after the undifferentiated year 10, of a general baccalauréat or a technology baccalauréat track (p. 525). Overall, the authors find that immigrants' children are less likely to pass the baccalauréat than students of French origin (p. 537). In addition, for students who entered the undifferentiated year 10, the gap between students of immigrant origin and those of French origin is noticeably smaller, suggesting that much of the inequality occurs earlier. However, students of North African origin maintain their relative distance behind those of French origin and are often advised to divert from the academic track (p. 538). Because immigrant parents express high educational aspirations, which are exceptionally high among North African families, this diversion turns out to be more "a fallback strategy or a forced adaptation by students, their families, and teachers, in response to poorer performance on average" (p. 538).

How students personally experience their transitions to high school may contribute to the persistence of racial and ethnic gaps in educational outcomes. Benner & Graham (2009) explore this hypothesis by analyzing perceptions of school climate, psychological functioning, and academic behaviors in middle school, how these outcomes change across the transition, and how

experiences of the school transition affect trajectories during the first two years of high school (p. 357). For this, they analyze data from a longitudinal study of peer relations in school using piecewise growth modeling to represent trajectories across different phases of individuals' development (pp. 360-363). The authors focus on adolescents that were doing well in middle school and transitioned into large urban schools; immediately following this transition, adolescents were both lonelier and more anxious, and they struggled more academically. These findings persisted across their high school years, suggesting that the high school transition experience "negatively altered the positive academic and psychosocial life course trajectories observed in middle school" (p. 370). Interestingly, differences by ethnicity mainly had to do with person-context interactions, defined as changes in the numerical representation of one's ethnic group from middle school to high school. Specifically, the process was more stressful when African American and Latino students transitioned to high schools with significantly fewer same-ethnicity peers, which in turn was associated with decreased feelings of belonging, lower grades in the case of African American students, and more absences among Latino students (pp. 370-371).

Lastly, Lucas et al. (2020) explore the extent to which the persistent ethnic and racial achievement gaps may be related to the fact that students from varied racial and ethnic groups are unevenly exposed to a more rigorous curriculum, which maximizes students' opportunities to learn (p. 356). In this review article, the authors organize the literature on curriculum differentiation over the 20th century and across educational levels, identifying three periods that vary in the degree and type of differentiation. While elementary education does not vary much across periods, high school curriculum differentiation shows significant variation. However, results regarding ethnic and racial inequities are mixed. Nevertheless, when the authors reorganize the literature in terms of a life-course perspective, they find that "a plurality of studied cohorts experienced racial disadvantage at some point between kindergarten and high school graduation, and the pattern suggests a role for larger societal dynamics beyond the school." This pattern, although only suggestive, "reinforces awareness that in-school structural differentiation sets the

context, but in-school structural differentiation itself occurs in a context of wider societal conditions" (p. 374).

Racial and ethnic educational stratification in Latin America

Inequalities driven by racial and ethnic stratification dynamics are ubiquitous across Latin America, and more broadly, in the Global South. Contemporary scholars studying ethnic formation processes in the developing world agree that phenomena like globalization and the market economy have impacted how ethnic identities are constructed. For Balibar & Wallerstein (1991), race and ethnicity are categories such as nation or class linked to the expansion of European hegemonic ideas, particularly to social structures such as the nation-state, the division of labor, and the global center-periphery relationship. From an anthropological point of view and looking particularly at Latin American societies, Segato (1999, 2007) argues that the nation-state continues to have a fundamental role in processes of *ethnogenesis* (or ethnic reemergence in colonized societies) since all ethnification processes produced by globalization are affected by the political hegemony of states. Furthermore, ethnic categories are used to support the persistent colonial racism in that they nurture the idea of second-class citizenship.

Despite the transnational nature of ethno-racial hierarchies produced by colonialism and slavery, constructed ethno-racial hierarchies often show significant variations from country to country. For instance, comparing racial stratification systems in Latin America with the United States, Telles (2014) concludes that what better describes the ethno-racial structure in Latin America is the notion of "pigmentocracy," because it is skin color, more than racial classification, that most consistently correlates with social stratification in the countries in their study (p. 4). Among other things, this implies that, in Latin American countries, classifying people into ethnic and racial categories is an exercise that involves challenges different from those of the United States context.

Fluidity in the definition of racial and ethnic categories in the region is also associated with forming independent states after emancipating from colonial dominance. Loveman (2014)

studies the historical relationship between racial classifications and state formation in 19 Latin American countries, finding that, in many cases, countries did not explicitly construct ethno-racial divides in the way the United States did. However, they produced classifications in indirect manners. In particular, state bureaucracies unevenly registered ethnic and racial categories in public records, such as the national Census. Chile is one of the few countries in the region that, except for the 1813 census, completely excluded ethno-racial classifications from the census data, until the inclusion of indigenous peoples in the 1992 census, under the influence of the 169 Convention "Indigenous and Tribal Peoples" of the ILO (1989). For López & Machaca (2008), based on their analysis of indigenous trajectories in Chile and Peru, a shortage of specific data by ethnicity, culture, and language, as well as the inaccuracies in the available data, reflect the (lacking) political will of the countries towards their indigenous populations (p. 14).

Before the 169 Convention, Latin American countries varied in the degree of attention provided to indigenous and afro-descendant peoples. After this agreement, there has been a growing concern with the region's well-being of ethnic and racialized groups. The markedly disadvantaged situation of racial and ethnic minorities in Latin America has been connected to the comparatively less developed economies of Latin American countries, many of which never fully reached industrialization (Schwartzman, 2015, p. 2). Also, to the late expansion of their education systems, which until after World War II, mainly remained limited to local elites (p. 3). In particular, a 1994 report by the World Bank finds them in a situation of pervasive and severe poverty (Psacharopoulos & Patrinos, 1994), observing a robust negative correlation between school attainment and indigenous origin, as well as between attainment and poverty. This disadvantage is reflected in low levels of human capital among indigenous populations (lower enrollment, higher grade repetition, higher dropout rates) (p. 234). Ten years later, a follow-up study concluded that, despite improvements in indigenous peoples' political participation and representation, their living conditions in many aspects remained far behind compared to the non-indigenous population (Hall & Patrinos, 2005).

For Zapata (2009), access of indigenous peoples to higher education in Ecuador, Bolivia, and Chile and in most occidental societies is a result of the expansion of their educational systems at the primary and secondary levels. In this region, this process began during the 1970s but became more noticeable during the 1980s. Indigenous students and working-class youth were signaled in the emerging education literature as "nontraditional students," marking the difference with the more homogeneous, upper-middle-class origins of university students before the expansion (p. 71). This implies that the growing inclusion of indigenous students in higher education must be understood not as an isolated process but as closely tied to the dynamics of socioeconomic inequality of Latin American countries (p. 76).

Correspondingly, in many countries, it was not until recent decades that the education of indigenous peoples became a matter of concern, thus a focus of educational policy. As early as the 1970s and 1980s, educational policies in some countries began considering instruction in indigenous languages as a possibility (for a detailed analysis of the cases of Argentina and Brazil, see (Stevens & Dworkin, 2014). Of particular interest are intercultural strategies such as Intercultural Bilingual Education (IBE), an educational practice related to the pertinence of learning, the contextualization of didactic contents, and the centrality of the child for pedagogical practice, as well as the participation of family and community, to improve indigenous children's learning outcomes (Mondaca-Rojas & Gajardo-Carvajal, 2013). However, after two decades of Intercultural Bilingual Education policies in Latin America, relevant criticisms have arisen. One of the main issues observed - in Chile and many other countries - is that IBE programs have been implemented only in schools serving the indigenous population, leaving the non-indigenous untouched by this policy (Mondaca-Rojas & Gajardo-Carvajal, 2013). Furthermore, even in areas where the local population sees ethnic diversity as a value, teachers' preconceptions and attitudes regarding interculturality might be a limitation for indigenous students (Alvarado-Urbina & Zapata-Sepúlveda, 2020).

Restricting IBE to 'education for the indigenous' reveals a functionalist understanding of intercultural education, which aims to facilitate the incorporation of ethnic minorities into the

hegemonic social system without challenging the power dynamics and inequality between groups (Walsh, 2010). This critique by Walsh is similar to Tyson's critique of the cultural socialization of Black students in all-Black schools (Tyson, 2003). It is also similar to the works of Carter (2003, 2005), Lewis & Diamond (2015), and Lee (2005), which suggest that teachers and school officials' attitudes tend to reflect an ideal of the "good student" that is closely aligned with White, middle-class culture. These critiques further justify the need for a better understanding of the educational experiences of indigenous students across different education levels and of patterns of horizontal stratification.

Some comparative studies have addressed ethnic inequalities in educational achievement in Latin America, using data sources recently available. Analyzing data from Bolivia and Chile, McEwan (2004) finds a consistent achievement gap of 0.3-0.5 standard deviations between indigenous and non-indigenous students (p. 159). Through a decomposition analysis, the author observes that more than half of the gap (50%-70%) can be explained by the quality of schools or peer groups, suggesting that indigenous students' disadvantage is related, primarily, to the fact that they commonly attend deprived schools. On the other hand, family characteristics would explain between 20% and 40% of the gap (p. 182). UNESCO's TERCE project (2017) expanded on McEwan's work by comparing third and sixth-grade students' performance across 15 Latin American countries, finding a consistent gap against indigenous students across all subjects and grades. However, gap size varies significantly across countries (UNESCO, 2017, p. 41). Moreover, this study concludes that most of the indigenous achievement gap can be explained by the unequal distribution of observable attributes, suggesting that indigenous students and their families are more vulnerable and attend underserved schools more often than non-indigenous peers (UNESCO, 2017, p. 101).

From an intersectional viewpoint of cumulative disadvantages, Taş et al. (2014) use data from Mexico, Peru, Bolivia, Senegal, and Sierra Leone found in the IPUMS-I database to analyze gender and ethnicity-based differences in literacy rates, as well as primary and secondary school completion. The authors conclude that, while female students show poorer outcomes than male

students and ethnic minorities compared to majority groups of reference, girls from ethnic-minority groups show the most considerable disadvantage in educational outcomes. Therefore, they argue that the intersection of gender and ethnicity has a tremendous impact on cumulative education disadvantages, which is particularly clear in the Latin American countries in their sample (Taş et al., 2014, p. 546).

Lastly, Creighton et al. (2016) study the evolution of ethnic inequality in Mexico over 60 years, comparing the educational trajectories of indigenous and non-indigenous students across distinct educational transitions (p. 1188), analyzing the impact of educational policies over this period. The authors argue that indigenous status was negatively associated with primary entry during the first half of the twentieth century and with transitions from primary to lower secondary school. However, this gap closed for individuals born in the early 1970s, after a policy-driven educational expansion and in concert with the creation of the Department of Indigenous Education (p. 1189). Creighton et al. conclude that the specific indigenous disadvantage is eliminated or at least significantly reduced across educational transitions: "in fact, once socioeconomic background is taken into account, for the most recent cohorts, no indigenous disadvantage remains at any transition in the education process." While the authors conclude that indigenous identity has declined in significance as an independent determinant of educational inequality in Mexico, this decline does not imply ethnic equality since social origins, which systematically define ethnic disadvantage, determine the remaining inequality (p. 1189).

Indigenous peoples in the Chilean education system

In Chile, given the limited availability of data sources explicitly targeting indigenous students, few studies have addressed ethnic inequalities at a national level. Some scholars have analyzed achievement gaps between indigenous and non-indigenous students using the Chilean National Student Standardized Testing System (SIMCE in Spanish). These studies have consistently found a significant but moderate indigenous disadvantage in math and language and have associated these gaps with school segregation. Based on the 1999 SIMCE, Noe et al.

(2005) find that non-indigenous students surpass indigenous students' math and language scores (p. 21). However, the authors conclude that ethnic identity is not what explains this gap since it disappears when controlling for home characteristics (per capita income and parental education) and peers' influence (p. 27). Canales & Webb (2018) observe that the achievement gap between indigenous and non-indigenous students is associated with the socioeconomic composition of schools and, to a lesser extent, with their ethnic composition. However, regarding the latter, there is significant variation across subjects and grades (p. 253). Moreover, the authors find that, although in general, the indigenous achievement gap does not hold when controlling for school and individual characteristics, in schools with a larger share of indigenous enrollment, the gap increases in math scores (p. 254).

Expanding on the impact of school and classroom composition on achievement gaps in Chile, Treviño et al. (2019) argue that ethnic segregation's conditions and qualities largely depend on the context where each school is located (p. 321). More specifically, indigenous students are overrepresented in the lowest socioeconomic deciles, indicating a correlation between indigenous status and poverty (p. 329); also, indigenous students are more likely to attend municipal (public) schools rather than private schools (p. 330). Overall, the authors conclude that ethnic segregation in schools is tied to population settlement patterns, suggesting that the school system itself is not necessarily an additional source of segregation for indigenous students. Moreover, although, in general, ethnic segregation would be less salient than academic segregation, it is especially problematic in specific territories (p. 339). These results coincide with Webb et al. (2017), who suggest that indigenous segregation would be significantly higher in rural schools (p. 289). Furthermore, their multivariate analyses suggest an association between ethnic segregation and the achievement gap between indigenous and non-indigenous students in Chile. At the school level and the district level (in two out of three segregation indexes used), a more significant proportion of indigenous students is associated with lower math scores (pp. 291–293).

CHAPTER 3: DATA AND METHODS

Data

This study relies entirely on administrative data of students and educational establishments compiled by the Ministry of Education of Chile (MINEDUC, 2020). These data were directly downloaded from the public website of MINEDUC, except for the ethnic identification of students, which the Statistics Department of the Ministry delivered upon request. In any case, the identifying information of students had been previously removed, guarding confidentiality.

The available student-level data describe the national enrollment by year for all primary, secondary, and post-secondary education grades. Although these datasets are cross-sectional, it is possible, with some restrictions,[6] to combine them and produce a longitudinal database, because each student in the system is assigned an anonymized identifier that allows me to track them across yearly datasets. This way, it is possible to construct a longitudinal database that includes information on each student's transition from middle school to high school and high school to higher education.

In this study, I focus on the cohort that was in seventh grade (*séptimo básico*) in 2012. Assuming no delays or interruptions, the expected trajectory for this cohort would be to complete primary school (eighth grade) in 2013, then start secondary school in 2014, graduating in 2017, and begin tertiary education in 2018. The 2012 seventh-graders are tracked until 2019; therefore, students who did not experience any delay and moved on to tertiary education right after graduating from high school will be followed up to their second year of higher education. In any case, students who repeated one or more grades are still part of the dataset; students who are

[6] The main challenge for a longitudinal analysis is that the data do not include variables for grade repetition, dropout, migration, or death at the individual level. Therefore, when a student is not found in the following grade and year, it is impossible to know with certainty the reason why they are absent from the school system.

presumed to have dropped out of the system (i.e., that disappear from the data in any given year) are also kept in the data. The decision to start with a cohort of seventh-graders is based on the fact that, before that grade, dropout rates in Chile are minimal, and primary schools follow one unified national curriculum. Therefore, although educational gaps may start building even at the preschool level (Schady et al., 2015), differences manifest more clearly at the secondary level.

In addition to the added ethnic identification of students, the student-level data contain their sex.[7], age, and commune of residence. Moreover, the database contains information about the school attended by the student: administration (public, private, subsidized), whether it is a rural school, location, and the type of curriculum the establishment offers, among other variables. The higher education data include a set of variables related to the program and institution in which the student is enrolled, considering the type of institution, the field of study, tuition cost, etcetera.

MINEDUC also offers data on school establishments across the country, which supplements the student-level information available. Most importantly, the school-level datasets indicate the number of socioeconomically vulnerable students in each establishment, allowing me to add a school SES variable to the constructed dataset. Other school-level variables in these data include the number of students per grade and per level, in total and divided by gender, as well as the number of classrooms per grade and whether there are combined classrooms (more than one grade). Finally, the data also provide school-level attainment information, including the number of students promoted to the next grade, number of students who repeated a grade, and number of students who transferred to another establishment, by grade and by gender, as well as attendance.

The advantages of using these data are that they include all students in the school system each year; thus, it is the most comprehensive data source possible to obtain in terms of its coverage. This is particularly relevant for the study of marginalized populations that are also a

[7] The data do not differentiate between sex and gender nor include gender information beyond male and female.

numerical minority (indigenous peoples in Chile represent nearly 13% of the population, according to the latest Census) because other data sources often include insufficient cases for these groups. In addition, the fact that MINEDUC uses a unique identifier for each student across years allows for temporal analyses. On the other hand, the main disadvantage of these data is that they do not include many variables about individual students' background, such as parental education, family socioeconomic status, etcetera. Because of this limitation, there are some relevant elements related to educational trajectories that cannot be included in the analyses, such as family cultural capital or parental involvement. Nevertheless, the fact that the student data can be matched with school information allows for the inclusion of controls like the proportion of students receiving financial aid, or the average socioeconomic status of the commune where the school is located. These variables are relevant information in a country with high levels of residential segregation (Treviño et al., 2019).

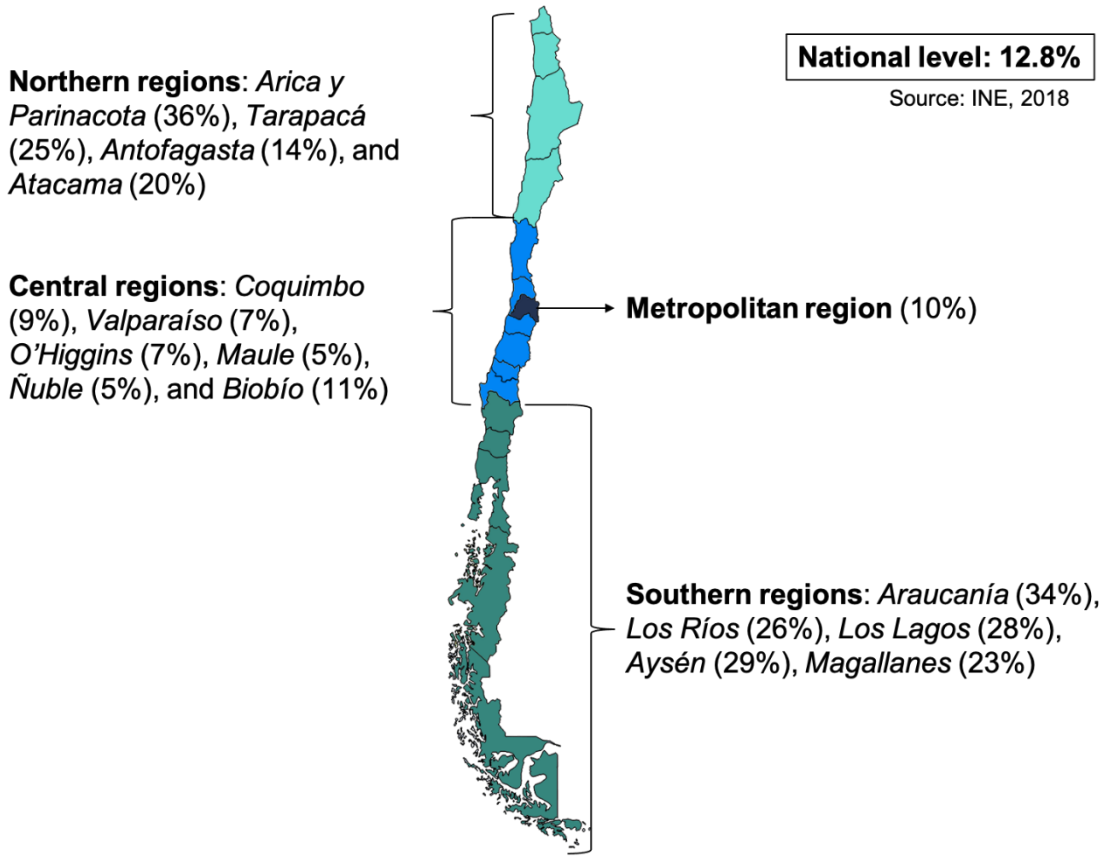
Location is included in the models at the communal (smallest administrative unit in Chile, with 345 communes across the country) and regional levels, as school's region, school rurality, and communal number of high schools per youth ages 13 to 15. Following previous studies by research and policy institutions and international organizations (Gattini et al., 2014; ICHEM, 2019), I included data from a communal Human Development Index elaborated by the Chilean Institute of Municipal Studies and the Institute of Studies of the Habitat, both part of the Autonomous University of Chile (ICHEM, 2020). This index includes three general dimensions: health and social well-being (access to essential services, poverty level, drinking water coverage, life expectancy); economy and resources (demographic dependency, municipal permanent income, access to the internet, number of companies); and education (eighth-grade average test scores in language and math, preschool coverage, high school coverage, average performance in university entry exam) (ICHEM, 2020, p. 16). This index was published for the first time in 2020, and it is elaborated using data from 2014 to 2018. Therefore, it is incorporated in the analyses as a single, time-invariant measure. Although it is uncertain whether and to what extent this index would vary year to year, it provides valuable information for the analyses in this project.

Another dimension of location relates to the uneven distribution of the indigenous population in the country. As described in previous sections, although they are present across the national territory, indigenous peoples are concentrated in certain regions, which implies different schooling outcomes and realities. Therefore, the analyses include a variable that groups regions based on their ethnic composition, allowing for more nuanced location analyses. This indicator has four categories:

- Northern regions: this category includes the four northernmost regions of the country, where the most significant part of the Aymara population lives (these regions are *Arica y Parinacota*, *Tarapacá*, *Antofagasta*, and *Atacama*)
- Central regions: the central and south-central regions have a concentration of indigenous population that is lower than the national average (*Coquimbo*, *Valparaíso*, *O'Higgins*, *Maule*, *Biobío*, and *Ñuble*)
- Southern regions: regions located south of the Biobío River are historical Mapuche land, and to this day, they present a large proportion of the indigenous population, above the national average (*Araucanía*, *Los Lagos*, *Aysén*, *Magallanes*, and *Los Ríos*)
- Metropolitan region: the *Región Metropolitana* is a separate category because it concentrates a large share of the national population and constitutes a pole of attraction for all other regions' indigenous and non-indigenous populations.

Summary of variables included in the analyses	
Individual-level variables	Indigenous status (yes or no) Age at 7th grade (11 to 18) Gender (female or male)
School variables	High school curriculum (vocational or academic) School SES (proportion of students in financial aid) Location (four macro-regions) Rurality (rural or urban school) Administration (state or private)
Higher education institutions	Location (four macro-regions) Type of program according to degrees offered (vocational or academic)
Commune-level variables	Human Development Index Number of high schools

Figure 1: Map of regions and their share of indigenous population, according to 2017 Census



Methods

Empirical section 1: from middle school to high school, and from high school to higher education

The analyses in this chapter consist, firstly, of a characterization of the 2012 seventh-graders focal cohort's educational trajectories over the years, throughout the presentation of descriptive data, particularly addressing how indigenous and non-indigenous trajectories differ. Secondly, focusing on the transition from middle school to high school, and from high school to higher education, I conduct a series of regression analyses estimating 1) the likelihood of making this transition (vertical dimension of educational stratification), 2) the likelihood of choosing a vocational over an academic education (horizontal dimension of stratification), and 3) the likelihood of choosing each type of education, over not making the transition (not enrolling in high

school, or not enrolling in higher education). I use binomial and multinomial logistic regression models to estimate these probabilities, and I perform these analyses for the overall sample of eligible students.[8]But also separately for indigenous and non-indigenous students and each macro-region, in order to unveil variations that the aggregate analysis might obscure.

For each set of analyses, the models estimated are ordered according to the dimensions and variables they incorporate:

1. Only indigenous status
2. Demographics (indigenous status, gender, age)
3. Location (region, rurality)
4. School administration (state or private administration)
5. School SES (share of students in financial aid)
6. Communal Human Development Index
7. Demographics + location
8. Demographics + location + school administration
9. Demographics + location + school administration + school SES
10. Demographics + location + school administration + school SES + communal HDI

Empirical section 2: fields of study in higher education

The second empirical chapter addresses the relationship between ethnicity and field of study among students who attend higher education. In particular, I first describe how students from different backgrounds are distributed across higher education programs, specifically looking at the fields of study and type of program in which they enroll. Then, through a set of regression analyses, I estimate the likelihood of enrolling in different programs according to fields of study

[8] In general, in the transition to high school, eligible students completed middle school the year before (2014). in the transition to higher education, eligible students completed high school the year before (2017). More specifically, the analyses that estimate the likelihood of choosing between an academic and a vocational track reduce the sample to those students who enroll in that level.

and type of degree, focusing mainly on how indigenous and non-indigenous students differ and how students who graduated from vocational and from academic high schools vary.

Empirical section 3: educational trajectories in times of policy changes

In this last empirical section, I compare the findings obtained in the previous two sections for the 2012 cohort of seventh-graders to cohorts 2009 to 2011 to assess how changes in educational policies of recent years can be associated with differences in the trajectories of indigenous students. Considering that not all the policy changes designed after the 2011 massive student movement have been fully implemented, I focus specifically on access to higher education; therefore, in this chapter, I repeat the analyses performed in the first analytic section regarding the transition to higher education.

Characterizing the focal sample: 2012 seventh-graders cohort

This second set of tables describes the focal sample of this study. The sample[9] are all students who were in seventh grade in the year 2012; these students are tracked over the following years up to 2019, a year in which some of them were in their second year of higher education. In Table 9 and Table 10, the first row shows students who are missing from the data each year, which I identify as "dropout" (although I do not know for sure the reason for their absence from the database; only that are not present in the data in the following years).

In Table 10, cells in gray show the proportion of 2012 seventh-graders that follow the expected progression of continuous attendance to school; that is, students who do not repeat a grade nor leave the school system. Of the 246 thousand 2012 seventh-graders, 93% were in eighth grade in 2013, and 88% began high school in 2014. By the time they are expected to be finishing high school (2017), only 65% are in their senior year.

[9] I excluded from the sample those individuals who are intermittently present in the data; that is, those who are absent from one year but present in the next. Also, I removed cases with a duplicated ID and those who appear to have a progression that is inconsistent with school and higher education regulations. Inconsistent cases are mainly of two kinds: one, students who seem to skip a grade (for instance, going from first grade of high school in one year to third grade of high school the following year), and two, students who appear to have enrolled in higher education without having completed the requirements (for example, students who were in third grade of high school in 2017, and in the first year of higher education in 2018).

The same information is presented in a summarized manner in Table 11 and Table 12. These tables combine categories, classifying cases into three groups: those who dropped out of the sample, those who are still in the sample but in a lower grade than the expected (indicating grade repetition), and those who are in the expected grade in each year. While in 2014, which is the expected first year of high school, 88% of the sample is on track, and only 8% are in a grade lower than the expected, in 2017 (last year of high school), 14% have experienced a delay, 20% have dropped out of the sample, and 65% are on track.

Indigenous and non-indigenous 2012 seventh-graders

Table 13 and Table 14 present the same progression as tables 9 and 10 but separating the sample in indigenous and non-indigenous students. This set of tables allows us to see the difference in the educational attainment of indigenous and non-indigenous students in absolute terms; it becomes evident that once students enter secondary education, the gap between these two groups widens, although not dramatically during high school years. Over this period, indigenous students who do not repeat or drop out are proportionally fewer than non-indigenous peers, showing correspondingly higher dropout rates. By the time they are expected to be finishing high school (2017), only 59% of indigenous students are in senior year, compared to 66% of non-indigenous students.

Table 15 and Table 16 present the same information but are summarized (collapsing grades into three categories: grade expected, grade delayed, and dropout). These tables illustrate a growing gap between indigenous and non-indigenous students that reflect the increasing disadvantage of indigenous students, particularly in dropout and timely grade progression ("grade expected"). However, the category "delayed grade" (students still in the system, but in a lower grade than expected) suggests a different story: the gap between indigenous and non-indigenous students in this category is smaller and remains relatively constant. Because these categories show aggregate numbers and do not consider the chance that individuals shift between them (e.g., a student repeating a grade, dropping out for a year, and

then going back to school), it is impossible to draw any conclusion from these trends without further analyses. However, the data suggest that for indigenous students, failing a school grade is likely followed by dropping out, more often than retaking the grade.

CHAPTER 4: FROM MIDDLE SCHOOL TO HIGH SCHOOL, AND FROM HIGH SCHOOL TO HIGHER EDUCATION

Throughout the schooling process, transitions play a significant role in students' lives because they present students and their families with alternatives that, later on, constitute trajectories that lead to varying life outcomes. In this chapter, I first explore the transition from middle school to high school of the 2012 seventh-graders in the sample and their transition from high school to higher education. For both transitions, my main focus of interest is whether students follow the academic or the vocational pathway and how indigenous and non-indigenous students differ in their choices.

The transition from primary into secondary (high) school is a pivotal moment in the lives of Chilean students for at least three reasons. First, the grades students obtain during high school will influence their chances to continue into higher education because high school GPA is factored in the application process to academic programs in most[10] universities. Secondly, students in high school follow either an academic or a vocational curriculum, and most high schools offer only one of them. The specific vocational or academic curriculum only begins in the third grade of high school after completing two years of a common curriculum. However, in practice, most students choose when they start their secondary education because most students switch schools at the start of high school. Lastly, in places with limited services, such as rural areas, transferring from middle school to high school implies attending an educational institution in a different district, or even a different town, affecting other aspects of these students' lives.

About the second transition, tertiary education, although not compulsory, has become the natural next step for a large portion of high school graduates, who see in a higher education

[10] In Chile, 43 out of 58 universities (including, but not limited to, all public institutions) are part of a unified admissions system. This system combines scores in standardized tests (language, math, and other field-specific subjects) and a score based on high school trajectory (average GPA and ranking). Programs and universities can differ in the weighting they give to each factor, but GPA and ranking must have a minimum weighting of 10% of the final score each.

degree a necessary credential for correctly entering the labor market. Recent studies (Raczynski et al., 2011; Hernández & Raczynski, 2014; Larrañaga et al., 2014) have shown that among vocational high school students, higher education is a widespread expectation. Many of these students apply to higher education institutions every year. Accordingly, although in its origins, a vocational secondary school might have been thought of as a quick way into the labor market, that is no longer the case. Because of this, connecting this second transition to the horizontal differentiation of the previous educational level becomes a very relevant matter, as well as analyzing the factors that play a role in the access to different forms of higher education.

This chapter aims to provide a thorough characterization of these transitions for indigenous students in Chile compared to their non-indigenous peers' experience. The cross-sectional enrollment data previously presented indicates that indigenous students disproportionately follow the vocational track compared to non-indigenous peers. Given the long-standing consequences of this differentiation and focusing on the trajectories of students in one specific cohort, this chapter seeks to answer two sets of questions. In the first place, how educational trajectories of indigenous and non-indigenous students vary in terms of the type of curriculum they are exposed to when they begin their secondary education? Are indigenous students more likely to enroll in vocational high schools even when taking into account background characteristics? If that is the case, how is this difference related to individual characteristics and the middle schools they come from? In the second place, once this cohort graduates from high school, how do the educational trajectories of indigenous and non-indigenous students vary regarding their incorporation into higher education? Do indigenous and non-indigenous students differ in their likelihood to attend academic and vocational higher education programs? How do their school trajectories relate to their access to higher education and the type of program they choose?

Specific methods

This chapter first presents descriptive information about the trajectories of the students in the sample, illustrating enrollment in vocational versus academic high schools, as well as in

vocational and academic programs at the higher education level. These trajectories are presented through flowcharts to facilitate their interpretation, both for the overall sample and divided by indigenous status.

Secondly, I present the results for a series of logistic regression analyses to address educational stratification's vertical and horizontal dimensions. More specifically, I first present the outcomes of a binomial logistic regression analysis estimating the likelihood of enrolling in high school after completing the last year of middle school. Then, I introduce a binomial logistic regression analysis estimating the likelihood of enrolling in a vocational high school rather than in an academic high school, restricting the sample to those who enroll in secondary school in 2014. In the third place, a multinomial logistic regression analysis estimates the likelihood of not enrolling in high school after completing middle school, compared to enrolling in an academic high school. The same three-stage analysis is presented for the transition into higher education, estimating first the likelihood of enrolling in a higher education program, then the likelihood of enrolling in a vocational program rather than in an academic program, and finally a multinomial analysis estimating the chance of enrolling in a vocational and in an academic program, each compared to not enrolling in higher education at all.

For each set of analyses, the main focus lies on how indigenous and non-indigenous students differ from each other, considering the possibility that specific indicators may affect them differently. Therefore, each regression analysis is performed for the overall sample and indigenous and non-indigenous students separately. Additionally, to address regional variations, the analyses are also performed for each of the four macro-regions separately. Replicating the models for these subsamples operates as a robustness check that allows for a more nuanced analysis of educational trajectories of indigenous and non-indigenous students in Chile. Figure 3 illustrates each stage in the analysis graphically. While the outcomes for all the analyses can be found in the Appendices section, I will only refer to the analyses for the total sample unless results from the subsamples contradict the overall findings.

The models estimated across this chapter are ordered according to the dimensions and variables they incorporate:

1. Only indigenous status
2. Demographics (indigenous status, gender, age)
3. Location (region, rurality)
4. School administration (state or private administration)
5. School SES (share of students in financial aid)
6. Communal Human Development Index
7. Demographics + location
8. Demographics + location + school administration
9. Demographics + location + school administration + school SES
10. Demographics + location + school administration + school SES + communal HDI

One last set of models included a commune-level variable indicating the number of high schools in 2014 (the year our focal cohort is expected to enroll in high school) divided by the total number of youth age 13 to 15, according to the 2017 Census. This age bracket correspond to the time in which youth are expected to enroll in high school; thus, this indicator is an estimation of the availability of high school institutions at the time our focal cohort reaches secondary school. Including this indicator did not alter any of the findings of this chapter regarding the transition from middle school to high school, therefore these models are not included.

Descriptive analysis

Figure 4 illustrates the educational trajectories of the 2012 seventh-graders in the sample through three time-points: at the moment they enter the sample (2012); two years later, when most of them had enrolled in their first year of secondary school (2014); and then four years later, in 2018, when those who did not experience any delay in their educational progression had graduated from high school, and some of them have entered higher education. Of the 245,973

seventh-graders included in the original sample, by 2014, 88% have enrolled in high school, while 12% had either repeated a grade (i.e., are still in middle school) or had left the educational system. While 66% of 2012 seventh-graders enrolled in an academic high school, 22% did it in a vocational high school. Of those who enrolled in a vocational high school in 2014, 23% completed high school in time and enrolled in a vocational higher education program immediately after graduating, while 10% of them did so in an academic program. However, 68% of the vocational high school goers either had not completed high school by 2017 or graduated and took a different path. That means that only 33% of the 2014 vocational high school enrollment went into higher education immediately after timely high school graduation. On the other hand, of those who enrolled in an academic high school in 2014, 44% enrolled in higher education by 2018 (15% in a vocational program and 29% in an academic program).

There is one omission in this depiction that needs to be addressed. Although most students choose a secondary education curriculum when they begin high school, a fraction of them changes track during their high school years (as mentioned before, for most students, this implies changing schools, because few high schools offer both curriculums). Also, considering that the specific vocational or academic contents only apply for the third and fourth years of high school, it is expected that changes may occur before this moment. About 20% of our sample changes track at some point (22% indigenous students, compared to 16% of non-indigenous students); the majority of the changes occur from the academic to the vocational track, and at the time when students go from second to the third year of high school.

Figure 5 illustrates this difference. By 2016, when the cohort is expected to be in the third year of high school, the proportion of students who had either repeated a year or left school grew from 12% to 30% of the original sample; vocational high school students increased by about 10,000; academic high school students decreased by more than 50,000. Therefore, Figure 4 and Figure 5 present information on the high school track from two different viewpoints; on the one hand, from the perspective of when students begin high school, and on the other, from the perspective of the time they are approaching the end of this cycle. This comparison provides two

significantly different reference points for analyzing how vocational/academic high school transition to vocational/academic higher education looks. Focusing on the vocational track, we see that the main difference between these two viewpoints regarding the transition into higher education lies in the number of students who enroll in a vocational higher education program (around 12,000 in figure 3, and around 19,000 in figure 4). This increase of about 7,000 vocational high school graduates that enroll in vocational programs, which is 70% of the increase in vocational high school goers from 2014 to 2016, suggests an association between choosing a vocational track in high school and choosing a vocational higher education program.

The next logical step is to see how these trajectories look for indigenous and non-indigenous students separately, which can be found in Figure 6 and Figure 7. Figure 6 presents separate diagrams for indigenous and non-indigenous students showing their starting point in 2012, then their hypothetical first year of high school (2014), and lastly, their theoretical first year after completing secondary school (2018). First of all, the proportion of indigenous and non-indigenous students who do not make the transition into high school in 2014 is pretty similar (12% and 14% respectively); however, they differ in their distribution between academic and vocational education. While 35% of indigenous students enroll in vocational education, only 21% of non-indigenous students take this path. On the other hand, 51% of indigenous students choose an academic high school, while 67% of non-indigenous students do so.

Secondly, looking at their transition into higher education, among the 11,484 indigenous students who started high school in 2014, only 33% enrolled in some type of higher education in 2018, while of the 204,747 non-indigenous students who were in their first year of high school in 2014, 42% enrolled in higher education in 2018. In the third place, vocational high school graduates enroll in vocational programs in more significant proportions for both groups than in academic programs. The same continuity pattern is observed among academic high school graduates. However, the difference between academic and vocational program enrollment is much more prominent among non-indigenous students than among the indigenous subset in this category. This gap could suggest that, for indigenous students, the association between an

academic high school track and an academic higher education program is weaker than for non-indigenous students.

Figure 7 presents the specific trajectories of indigenous and non-indigenous students but taking 2016 as the point of reference for high school, when they start the specific vocational or academic curricula. From the first to the third year of high school, both groups see a drastic increase in delayed students or those who left the educational system (from about 1,800 to 4,700 among indigenous students and about 28,000 to 69,000 non-indigenous). Also, there is a sizable reduction in the number of students on the academic track (from about 7,000 to 3,500 among indigenous students and from about 156,000 to 105,000 among non-indigenous students). Moreover, both groups see an increase in vocational track goers, from around 4,600 to 5,100 in the indigenous subsample and 49,000 to 59,000 in the non-indigenous subset. All in all, these numbers suggest that the most drastic change happens in terms of dropout from the academic track, which is more significant among indigenous students.

Concerning the transition into higher education, Figure 6 shows a more significant proportion of "eligible students" who enroll in higher education programs compared to Figure 7 for both subsamples. By "eligible students," I mean those enrolled in high school who are on time for graduating in 2017; this pool is significantly smaller in 2016 (Figure 7) than in 2014 (Figure 6); thus, the percentages in both figures must be read cautiously. Taking 2016 as the point of reference for identifying which students followed which track in high school, we see that, among vocational high schoolers, those who enroll in a vocational higher education program are more than thrice those who enroll in an academic high school. Consistently, among academic high school goers, those who enroll in an academic higher education program are two or three times as many as those who enroll in a vocational program (for indigenous and non-indigenous students, respectively). In Figure 7, compared to 2014 as the point of reference for the high school curriculum, both subsamples show more clearly that vocational high school is often followed by vocational higher education, while academic high school is often followed by academic higher education. This continuity pattern, which was less clear for indigenous students

when considering 2014 (entry point to high school) as a reference, coincides with the fact that, in this sample, indigenous students switch from academic to the vocational curriculum during high school in a more significant proportion than non-indigenous students.

Findings from regression analysis

Across this section, findings are presented, in the first place, for the transition from middle school to a high school of the 2012 seventh-grader cohort. In the second place, for their transition into higher education. In each case, I start by addressing the general question of access to the next educational level (i.e., the vertical stratification dimension) and then presenting results related to the type of education received, either vocational or academic (i.e., the horizontal dimension of stratification). Moreover, and as a way of further investigating potential variations, the description of findings for the overall 2012 seventh-grader sample is complemented by findings for multiple subsamples: on the one hand, for indigenous and non-indigenous separately, and on the other hand, for each one of the four macro-regions previously identified. Regression outcomes for the overall sample and each subsample can be found in the appendices section, although the description of the findings focuses mainly on the overall sample; subsample outcomes are further discussed when they notably depart from the overall pattern.

The transition from middle school to high school

Vertical stratification

The first set of analyses for the transition from middle school to high school explores how different indicators are associated with the likelihood of enrolling in high school after completing primary education. This analysis aims to provide a sense of how indigenous and non-indigenous students differ in their chances of taking this step. However, it must be stated that, as seen in the descriptive analysis, the vast majority of primary school graduates make the transition to secondary school (high school). Table 17 presents the log-odds for analyses of the overall

sample. Table 18 and Table 19 do so for the indigenous and non-indigenous subsamples, and Table 20 to Table 22 present outcomes for each regional subsample.

According to the overall results, while indigenous students are 34% less likely to transition into high school than non-indigenous students ($e^{-0.419} = 0.66$), this coefficient weakens and becomes statistically nonsignificant once other covariates are included in the model. More specifically, when controlling for school characteristics – the type of administration, location, and SES -, the difference between indigenous and non-indigenous students disappears. This first finding is probably related to the fact that indigenous students tend to concentrate in low-SES, resource-deprived schools. Regional subsamples' outcomes indicate that the northern regions differ from the rest of the country. The indigenous coefficient is statistically nonsignificant across all model specifications in this subset, regardless of which controls are included.

Interestingly, looking at the gender coefficients, female students' likelihood of enrolling in high school is not significantly different from male students' chance of making this transition. This is the case not just for the overall sample but also for each ethnic and regional subsample.

It is well established that school socioeconomic segregation is a persistent issue in Chile. Therefore, school SES is expected to be an influential variable. In fact, a one-unit increase in the share of students in financial aid in 2013 (last year of middle school) reduces the likelihood of making the transition to high school by -85% in the full model ($e^{-1.888} = 0.15$), when other school characteristics are controlled. However, when we focus on the indigenous subsample, we see that the school SES indicator loses statistical significance when other school characteristics into the model. Coincidentally, also in the northern regions, school SES loses significance when adding all covariates.

Rurality is another factor that harms the chance of making this transition. In the overall sample, graduating from a rural middle school reduces the likelihood of enrolling in high school by -15% ($e^{-0.167} = 0.85$) when all other covariates are accounted for. Dividing the sample by indigenous status shows that this disadvantage affects both indigenous and non-indigenous students, although the effect of rurality is more significant for the indigenous subsample ($e^{-0.357} =$

0.70). On the other hand, rurality presents a significant degree of regional variation. While in the northern and metropolitan regions, this coefficient becomes nonsignificant when adding other school covariates, rural middle school graduates from the central and southern regions are less likely to enroll in high school (and regarding size effect, the southern regions resemble the indigenous subsample).

Graduating from a state-administered middle school reduces the likelihood of enrolling in high school by -15% in the full model ($e^{-0.165} = 0.85$) instead of completing middle school in a private-administered institution. However, similarly to school SES, state administration loses statistical significance among indigenous students when adding all other controls to the model. Nevertheless, in this case, the northern and metropolitan regions coincide with the overall sample (although the effect for the northern regions is larger; $e^{-0.754} = 0.47$), while in the central and southern regions, state administration does not impact chances of enrolling in high school.

Lastly, a one-unit increase in the communal Human Development Index increases the likelihood of transitioning into high school by 151% ($e^{0.921} = 2.51$); however, when all controls are included, this effect becomes negative (a reduction of -89% according to the odds ratio of the full model, $e^{-2.180} = 0.11$). However, for the indigenous subsample, communal HDI is only significant when controlling for school characteristics, and in that case, its effect is negative. This is also the case for the northern and central regions.

It is important to reiterate that most middle school graduates enroll in high school and that this is true for indigenous and non-indigenous students. However, these findings suggest that a middle school with a high share of students in financial aid and a state-administered middle school is associated with a lower chance of enrolling in high school, although less so for indigenous students. Moreover, regional outcomes suggest that the influence of middle school characteristics on high school enrollment varies across the national territory. These variations are likely related to the characteristics of each region.

Horizontal stratification

Although most students transition to secondary school, those who enroll in high school can follow two qualitatively different pathways. This section focuses on the decision between enrolling in an academic or a vocational high school, paying particular attention to the differences between indigenous and non-indigenous students' trajectories. Table 24 presents the log-odds from the binomial logistic regression models estimating enrollment in a vocational high school instead of enrolling in an academic high school. Table 25 and Table 26 present the same analyses but for the indigenous and non-indigenous subsamples, and Table 27 to 29 show results for each macro-region. These regression analyses are restricted to 2012 seventh-graders who enrolled in high school in 2014.

According to these regression outcomes, indigenous students are more likely to attend a vocational high school than an academic high school. Although the effect size varies according to the covariates included in the models, particularly when incorporating school SES, this coefficient is statistically significant across all models. Specifically, when only considering indigenous status as a predictor, this coefficient indicates that indigenous students are 117% more likely to enroll in a vocational high school than non-indigenous students ($e^{0.776} = 2.17$). When adding all other covariates, indigenous students are 17% more likely than non-indigenous peers to enroll in a vocational high school ($e^{0.153} = 1.17$). However, regional subsamples reveal some notable differences: in the northern regions, the indigenous coefficient becomes statistically nonsignificant in every model that includes school SES. In the central and the metropolitan regions, the association between indigenous status and a vocational high school education seems more persistent than in the northern area. However, it becomes practically nonsignificant in the full model. In the southern regions, where the Mapuche population is the indigenous majority, indigenous students are 44% more likely than non-indigenous peers to attend vocational high schools ($e^{0.366} = 1.44$), even when including all other covariates.

The gender coefficient, on the other hand, indicates that girls are less likely than boys to enroll in vocational high schools, regardless of which covariates are included. The odds ratio for

this coefficient indicates that girls are 23% less likely than boys to enroll in vocational high schools ($e^{-0.267} = 0.77$) and 25% less likely when adding all controls ($e^{-0.291} = 0.75$). This finding holds for all subsamples, both by indigenous status and macro-region (although coefficients for the northern regions are somewhat less significant).

Considering the characteristics of the middle school from which students graduated, rurality, state administration, and low school SES are all strongly associated with a greater chance of enrolling in a vocational high school rather than in an academic high school. School SES, in particular, has a considerably significant impact on choosing a vocational high school: the odds ratio for this variable indicates that a one-unit increase in the share of students in financial aid increases the likelihood of enrolling in a vocational high school 42 times ($e^{3.739} = 42.1$), and in by 52 times in the full model ($e^{3.953} = 52.1$). While the non-indigenous subset resembles these overall results, the size of the school SES effect is considerably smaller in the indigenous subsample. A one-unit increase in the share of students in financial aid increases the likelihood of making this choice 7.6 times ($e^{2.028} = 7.60$). Accordingly, the size of the school SES effect also varies by region. In the central and metropolitan regions, the odds ratios for school SES are about three and four times larger than in the northern and southern regions, where indigenous students represent a larger share of the student body.

Rurality is also associated with the choice of a vocational track in high school. In the overall sample, graduating from a rural middle school increases the likelihood of enrolling in vocational high schools by 119% when only controlling for indigenous status ($e^{0.785} = 2.19$). However, the size of this effect decreases to 24% when adding all other covariates ($e^{0.213} = 1.24$). On the other hand, indigenous students show a much more significant effect. Among them, rural middle school graduates are 72% more likely to enroll in a vocational high school ($e^{0.541} = 1.72$) in the full model, compared to graduates from urban schools. In addition, this indicator shows substantial regional variability, since only in the central and southern regions it remains significant across all model specifications. In the metropolitan region, rural school becomes nonsignificant once other school characteristics are included, and in the northern regions, this

coefficient is nonsignificant across all specifications. One possible explanation for these differences is that in the northern regions, because of their desertic geography, the population tends to concentrate in urban areas; something similar occurs in the metropolitan region, where the proportion of the rural population (3.7%) is much smaller than the national average (12.2%).

State administration also has a positive effect on choosing a vocational high school over an academic one. In the total sample, graduating from a state-administered middle school increases this likelihood by 182% when controlling only for indigenous status ($e^{1.036} = 2.82$) and 32% when adding all other covariates ($e^{0.276} = 1.32$). Nevertheless, this effect holds only for non-indigenous students because, in the indigenous subsample, the state administration has no significant effect. Regional subsamples show that, in the southern and metropolitan regions, the coefficient for state administration turns nonsignificant when other school characteristics are taken into account, while in the central and northern this effect is strong and positive (the size of this coefficient is particularly large for the northern regions; $e^{1.132} = 3.10$).

Interestingly, the communal Human Development Index is negatively associated with choosing a vocational high school when not controlling for school characteristics (a one-unit increase in this indicator reduces the chance of enrolling in a vocational high school by 95%, $e^{-2.956} = 0.05$). However, when all covariates are included in the model, a higher communal HDI increases the likelihood of enrolling in a vocational high school by about 320% ($e^{1.435} = 4.20$). This finding holds for all subsamples.

These outcomes suggest that although school characteristics significantly impact an academic and vocational high school decision, indigenous status and gender are persistently associated with this decision, even beyond school effects. One last robustness check in the transition from middle school to high school is comparing high school enrollment to the students who do not make this transition. For this, I applied a set of multinomial logistic regression models. The outcome variable presents the categories of enrolling in an academic high school, enrolling in a vocational high school, and not enrolling in high school. Incorporating this multinomial analysis allows for the inclusion of those students who did not enroll in any high school the year after

completing middle school. Although they are a small fraction of the sample, it is worth exploring how they differ from those who enroll in secondary education. These tables can also be found in the Appendices section, under supplementary findings for chapter IV.

Table 45 to Table 51 present the regression outcomes for these multinomial logistic regression models in which the reference category of the dependent variable is enrolling in an academic high school. Because the choice of a vocational high school over an academic high school has already been discussed in this section, the following paragraphs focus on the likelihood of not enrolling in high school over enrolling in an academic high school.

Overall, indigenous students are more likely than their non-indigenous peers to not enroll in high school compared to enrolling in an academic high school. However, this coefficient becomes statistically nonsignificant when controlling for school SES. In other words, when comparing students in schools with an equivalent share of students in financial aid, there are no significant differences in the chances of dropping out between indigenous and non-indigenous students. This finding is consistent across regional subsamples, with the slight difference that, in the northern regions, indigenous status does not affect the chance of dropping out, regardless of model specifications.

In the case of gender, although this coefficient by itself does not have a significant effect, when controlling for school characteristics, girls are 7% ($e^{-0.077} = 0.93$) less likely than boys to not enroll in high school rather than enrolling in an academic high school (in other words, boys are slightly more likely to leave school at this transition). However, this effect holds only for non-indigenous students because the gender coefficient is nonsignificant for the indigenous subsample. Moreover, when looking at regional differences, only in the southern regions we find a significant gender difference in the likelihood of dropping out of school and not attending high school, favoring girls' permanence (girls are 19% less likely to not enroll in high school, compared to boys; $e^{-0.209} = 0.81$). In all other macro-regions, the gender coefficient is statistically nonsignificant.

Low school SES is positively associated with not enrolling in high school instead of attending an academic high school, and this effect can be found in all subsamples. In the overall sample, a one-unit increase in the share of students in financial aid increases the likelihood of not enrolling in high school 18.8 times ($e^{2.935} = 18.8$). Regarding the subsamples, there are size differences worth mentioning: the effect of school SES is much more prominent among non-indigenous students ($e^{2.956} = 19.2$) than among indigenous students ($e^{2.035} = 7.7$), and it is much more significant for the metropolitan ($e^{3.025} = 20.6$) and central regions ($e^{3.133} = 22.9$) than for the northern ($e^{1.733} = 5.7$) and southern regions ($e^{2.373} = 10.7$).

Rurality is also associated with a higher chance of dropping out than enrolling in an academic high school. In the full model, graduating from a rural school increases this chance by 32% ($e^{0.280} = 1.32$) and by 90% when looking only at indigenous students ($e^{0.643} = 1.90$). On the other hand, this coefficient only remains statistically significant in the central ($e^{0.395} = 1.48$) and southern regions ($e^{0.579} = 1.78$) after including all other controls.

The last school characteristic in the models, state administration, is also positively associated with not enrolling in high school. In the full model, and for the overall sample, graduating from a state-administered middle school increases the likelihood of making this choice by 26% ($e^{0.233} = 1.26$). Nevertheless, among indigenous students, the effect of a state-administered school becomes nonsignificant when adding other school characteristics as covariates. At the same time, for non-indigenous students, it remains strongly associated with not enrolling in high school. Regarding regional variations, only in the northern ($e^{1.114} = 3.05$) and metropolitan ($e^{0.226} = 1.25$) regions, these coefficients retain significance after adding school covariates.

Finally, communal HDI shows the same pattern of a reversed effect than for the comparison between vocational and academic alternatives: before controlling for school features, a one-unit increase in communal HDI reduces the chance of dropping out by -81% ($e^{-1.674} = 0.19$), but in the full model, this unit change makes students 14 times more likely not to enroll ($e^{2.644} = 14.1$).

The transition from high school to higher education

Vertical stratification

The second part of this analysis consists of a series of regression models to explore the transition of indigenous and non-indigenous students from high school to higher education. As described earlier, the trajectories of these two populations differ in terms of the paths they take since previous sections showed that indigenous students tend to concentrate in vocational high schools. In addition, descriptive data indicate that, among high school graduates, fewer indigenous than non-indigenous students make the immediate transition into higher education. In order to explore what factors are associated with this gap, the first set of regression models estimates the likelihood of enrolling in any higher education program/institution the year after graduating from high school (i.e., 2018) instead of not enrolling in higher education.

Table 31 presents the log-odds for the binomial logistic regression models estimating the likelihood of enrolling in higher education for the total sample; Table 32 and Table 33 show results for the indigenous and non-indigenous subsamples, and Table 34 to Table 37 present results for each macro-region. According to the outcomes for the overall sample, indigenous students are 10% less likely to enroll in a higher education program after graduating than non-indigenous students ($e^{-0.110} = 0.90$), even when controlling for the type of high school they attended. However, once school SES is included in the models, the indigenous coefficient becomes statistically nonsignificant. Nevertheless, exploring macro-regional differences makes apparent that only in the southern regions the indigenous population is associated with a lower chance of enrolling in higher education (although this coefficient loses significance once other covariates are included). In the other regions, this coefficient is practically nonsignificant for all model specifications.

Interestingly, the gender coefficients indicate that, overall, girls are 7-8% less likely than boys to make this transition, even after including all other covariates (in the full model, $e^{-0.069} = 0.93$). However, if one splits the sample by indigenous status, this pattern only holds for non-

indigenous students; indigenous girls and boys, on the contrary, are practically no different from each other in their chances of enrolling in higher education. On the other hand, dividing the sample by macro-region produces other differences. While in the northern regions, the gender coefficient is nonsignificant, in the central and metropolitan regions, girls are -7% ($e^{-0.074} = 0.93$) and -13% ($e^{-0.144} = 0.87$) less likely than boys to enroll in higher education. Surprisingly, in the southern regions, female students are 13% more likely to enroll in higher education than their male peers ($e^{0.126} = 1.13$).

According to the overall results, graduating from a vocational high school has a strong and negative effect on immediately enrolling in higher education. Specifically, a vocational high school reduces the chances of enrolling in higher education by -51% ($e^{-0.722} = 0.49$), an estimate that decreases to -36% when adding all other covariates ($e^{-0.448} = 0.64$). Testing this finding by dividing the sample into indigenous and non-indigenous students does not show any meaningful difference, except that the odds ratio for indigenous students indicates a relatively larger decrease in the likelihood of enrolling in higher education (-55% to -47%, depending on the covariates included in the model). Furthermore, splitting the sample by macro-regions also confirms that this gap against vocational high school graduates is a ubiquitous phenomenon. The most significant effect is observed in the northern regions (-49% lower chances of enrolling in the full model, $e^{-0.681} = 0.51$) and the most negligible effect found for the metropolitan region (-26% in the full model, $e^{-0.302} = 0.74$).

In these models, school characteristics (SES, rurality, and administration) are included as dummy variables for the year previous to each transition: 2013 for their last year in middle school and 2017 for their last year in high school. Previous versions of the analyses also included dummies for 2014, 2015, 2016, but because of their limited contribution to the models, these indicators were removed for the sake of parsimony.

Regarding school SES or the school's share of students in financial aid, for the overall sample, a one-unit increase in this indicator in 2013 (last year of middle school) is associated with a -36% decrease ($e^{-0.440} = 0.64$) in the likelihood of enrolling in higher education after completing

high school, controlling for other characteristics. On the other hand, a one-unit change in high school SES reduces the chances of entering higher education by -46% ($e^{-0.622} = 0.54$). However, the results for the indigenous subsample shows that, among indigenous students, middle school SES does not significantly affect chances of enrollment, and the statistical significance of high school SES is less robust. Moreover, running separate analyses for each macro-region shows that high school SES does not significantly affect their chances of enrolling in higher education for students in the northern regions.

About rurality, while graduating from a rural middle school reduces the likelihood of enrolling in higher education immediately after completing high school by 15% ($e^{-0.161} = 0.85$), once other school characteristics are controlled for, this coefficient loses all statistical significance. Moreover, while a rural high school reduces the chance of making this transition by -13% ($e^{-0.145} = 0.87$), this effect is nonsignificant in the full model. However, looking at the indigenous subsample, in this case, graduating from a rural high school reduces the chance of making this transition by -23% ($e^{-0.258} = 0.77$) even when adding all other covariates. Lastly, dividing the sample by region shows significant variability: in the northern regions, only rural high school has a significant effect on this transition; oppositely, in the central and southern region, a rural middle school is associated with a lower chance of making this transition, but not a rural high school. Interestingly, while a rural high school does not impact enrolling in higher education in the metropolitan region, a rural middle school increases this chance by 17% ($e^{0.161} = 1.17$).

Graduating from a state-administered middle school reduces the likelihood of enrolling in higher education by -15% ($e^{-0.166} = 0.85$) and by -5% when all other covariates are included ($e^{-0.054} = 0.95$). While a state-administered high school reduces this likelihood by about -7% ($e^{-0.072} = 0.93$), this coefficient becomes nonsignificant when adding all other controls. Nevertheless, when only looking at the indigenous population, the state administration has no impact on the likelihood of enrolling in higher education for this subpopulation. On the other hand, the region-by-region analysis reveals that only in the metropolitan region a state-administered middle school is associated with a lower chance of enrolling in higher education ($e^{-0.125} = 0.88$)

even when including all other covariates. The opposite pole is represented by the northern regions, where state administration affects, neither at the middle school nor at the high school level.

Lastly, an increase in the communal Human Development Index increases the likelihood of enrolling in higher education by 128% ($e^{0.823} = 2.28$). However, this effect becomes nonsignificant when adding all other covariates to the model. However, the region-by-region analysis reveals some intriguing patterns: in the northern and central regions, this coefficient has no significant effect when school characteristics are not controlled for, but in the full model, its effect is negative and significant ($e^{-1.077} = 0.34$ in the northern regions; $e^{-1.032} = 0.36$ in the central regions). In the southern regions, without other controls, the effect of communal HDI is positive ($e^{0.879} = 2.41$), although it loses significance when controlling for school characteristics. Finally, this coefficient positively affects higher education enrollment in the metropolitan region, with and without other covariates (in the full model, $e^{0.893} = 2.44$).

Horizontal stratification

Higher education students can be classified according to multiple criteria: type of institution they attend, type of program, a field of study, means of financing their studies, and so forth. In this case, I classify higher education programs by the type of degree they grant, whether the program ends with a *licenciatura* (academic degree) or with a technical or professional degree (vocational). This classification is similar to the distinction between academic and vocational high schools, allowing for a more straightforward analysis of trajectories.

In order to explore the horizontal differentiation of students in terms of the type of degree they pursue in higher education, I ran a series of binomial logistic regression models estimating the likelihood of enrolling in a vocational program rather than in an academic program. This exercise reduces the sample to students who graduated from high school in 2017, enrolled in an undergraduate-level program in 2018, either in a university, a professional institute, or a technical training center. Regression outcomes can be found in Table 38 to Table 44.

In the first place, these regression outcomes indicate that indigenous students are 27% more likely to enroll in vocational HE programs than non-indigenous students ($e^{0.236} = 1.27$) in the simplest model, and 30% more likely to make this choice in ($e^{0.265} = 1.30$) in the model that includes all school characteristics except for school SES. However, adding school SES to the model turns this coefficient statistically nonsignificant. A region-by-region analysis reveals that the indigenous coefficient shows a positive association with choosing a vocational higher education program in all areas except in the northern regions. However, this indicator becomes nonsignificant when all covariates are included. In the northern regions, indigenous status has no association with this choice, regardless of which controls are included.

Although the impact of indigenous status on the type of program fades away once all school characteristics are taken into account, gender has a more persistent effect. According to the overall outcomes, girls are -32% less likely to enroll in vocational higher education programs than boys ($e^{-0.389} = 0.68$), and this effect reaches -36% in the full model ($e^{-0.444} = 0.64$). Interestingly, this gender effect is also found in all subsamples (regional and indigenous status) and across all model specifications.

Another indicator that has a substantial and persistent effect is graduating from a vocational high school instead of an academic high school. It is important to reiterate that there is no formal restriction to vocational high school graduates regarding the higher education program they can apply to. High school curricula include two years of standard content for academic and vocational tracks. Therefore, vocational HS graduates can (and many do) apply to academic programs. Nevertheless, in the overall sample, vocational high school graduates are eight times more likely to enroll in vocational HE programs than academic high school graduates ($e^{1.291} = 8.03$). Although this effect is significantly reduced in size when adding other controls ($e^{0.265} = 3.64$ in the full model), it remains strongly significant across all model specifications and for all subsamples.

The school SES indicator, or the school share of students in financial aid, is also strongly associated with a vocational higher education program. A larger share of students in financial aid

in both middle school and high school is positively associated with vocational HE in the overall sample. However, the effect for high school SES is much more significant (about 27 times more likely to enroll in a vocational program in the full model, $e^{3.286} = 26.7$) than middle school SES (1.8 times more likely, $e^{0.611} = 1.84$). Subsample analyses reveal that middle school SES does not affect the choice between programs for indigenous students. The effect of high school SES is somewhat smaller for this population ($e^{2.886} = 17.9$). On the other hand, the region-by-region analysis shows that the northern and southern regions resemble indigenous students' outcomes because, in those cases, middle school SES is not significant.

Another variable of interest in this study, rurality, shows relevant variations between subpopulations. For the overall sample, graduating from a rural middle school in ’13 increases the chance of choosing a vocational program by 64% ($e^{0.496} = 1.64$). However, this association becomes nonsignificant when controlling for other school characteristics. Graduating from a rural high school in ’17, on the other hand, has no significant effect by itself. However, in the full model, it decreases the likelihood of choosing a vocational program by -24% ($e^{-0.254} = 0.76$).

Nevertheless, for the indigenous subsample, graduating from a rural middle school is strongly associated with choosing a vocational program in higher education, even when controlling for other school characteristics. More specifically, indigenous students who attended a rural middle school are 34% more likely to choose a vocational higher education program than indigenous students who attended an urban middle school, according to the full model ($e^{0.295} = 1.34$). Now, splitting the sample by macro-region shows that a rural middle school has no impact on this choice in the northern and central regions. In contrast, a rural high school reduces the chance of choosing a vocational program in the full model. In the southern regions, rurality at the middle school level increases the chance of making this choice (similarly to what was observed for indigenous students). In contrast, high school rurality has no impact. Lastly, in the metropolitan region, both middle school and high school rurality are nonsignificant.

Because of the high levels of school segregation of the Chilean school system, that is, the high concentration of students from disadvantaged backgrounds in the most resource-

deprived schools, school administration is an essential indicator in this analysis. In fact, for the overall sample, graduating from a state-administered middle school increases the likelihood of choosing a vocational higher education program by 27%, according to the full model ($e^{0.238} = 1.27$). On the other hand, graduating from a state-administered high school decreases the likelihood of enrolling in a vocational program by -20% ($e^{-0.229} = 0.80$). This finding, although surprising, might be associated with the existence of "emblematic high schools" (a group of state-administered, selective, high-performing high schools, which inspired a policy of creating similar public high schools in different regions of the country). According to the analysis by macro-region, while in all subsets, a state-administered middle school is positively associated with choosing a vocational program, in the northern and southern regions, a high school state administration has no significant effect. On the other hand, in the metropolitan and central regions, state-administered high school decreases the likelihood of choosing a vocational program over an academic program.

Finally, the communal Human Development Index is negatively associated with choosing a vocational higher education program; that is, a one-unit increase in the HDI decreases the likelihood of enrolling in a vocational program by 90% ($e^{-2.315} = 0.10$). However, when looking at the full model, we see that this indicator becomes nonsignificant. Regarding potential regional variations, the southern and metropolitan regions replicate the overall pattern. In contrast, the northern and central regions show a counter-intuitive result. In these regions, when adding all other controls, an increase in communal HDI is associated with an increased likelihood of enrolling in a vocational program. This finding is substantial in the northern regions, where a one-unit increase in HDI increases the chances of making this choice by 6.3 times ($e^{1.832} = 6.25$).

The last set of supplementary analyses explores the choices students make regarding higher education, although incorporating a third alternative to the academic/vocational dichotomy: not enrolling in higher education. Students who graduated from high school in 2017 but did not enroll in higher education in 2018 represent a large portion of the sample. Therefore, it is

necessary to take them into account. In particular, the following paragraphs describe the results of a set of multinomial logistic regression models estimating the likelihood of enrolling in an academic program instead of not enrolling in higher education and the likelihood of enrolling in a vocational program instead of not enrolling in HE. These outcomes are presented in Table 52 to Table 58 and can be found under *supplementary analyses for chapter IV* in the Appendices.

First, I describe the results for the **choice between enrolling in an academic program versus not enrolling in higher education**. According to these outcomes, indigenous students are around -15% less likely to enroll in academic programs than non-indigenous students ($e^{-0.178} = 0.84$). However, this effect becomes statistically nonsignificant anytime school SES is incorporated. The regional analysis shows that this finding holds for all regions except for the northern area, where the indigenous coefficient is statistically nonsignificant for all model specifications.

In all models that include gender, female students are more likely to enroll in an academic program rather than abstaining from enrolling compared to their male peers (in the total sample, the odds ratio for gender is $e^{-0.192} = 0.83$). This finding holds for the indigenous and the non-indigenous subsamples. The region-by-region analysis shows that this is also the case for all the regional subsamples, except for the metropolitan region, where the gender coefficient is nonsignificant.

Graduating from a vocational high school reduces the chance of enrolling in an academic program by -80% to -70%, depending on the covariates (in the full model, $e^{-1.167} = 0.31$). This finding tells us that not only vocational high school graduates are more likely to choose a vocational program over an academic program (as shown in the previous section), but they also are more likely not to enroll in higher education than studying in an academic program. This finding holds for the indigenous and the non-indigenous subsamples, as well as for each macro-regional subset.

Low school SES is negatively associated with the choice of an academic program over not enrolling in higher education. In the full model, a one-unit increase in the middle school share

of students in financial aid reduces the likelihood of enrolling in an academic program by -23% ($e^{-0.264} = 0.77$). In comparison, a one-unit increase in the high school share of students in financial aid reduces the chance of making this choice by -74% ($e^{-1.335} = 0.26$). The indigenous subsample reveals a difference in that middle school SES is nonsignificant for this population, although high school SES confirms the finding for the overall sample. Regarding regional variations, in both macro-regions with high shares of the indigenous population (northern and southern), middle school SES is statistically nonsignificant, resembling the results of the indigenous subsample.

Rurality is negatively associated with enrolling in an academic program, although only at the primary level. Students who graduated from a rural middle school are about -32% less likely to enroll in an academic program rather than not enrolling ($e^{-0.380} = 0.68$), and this effect diminishes to -10% when adding all other covariates ($e^{-0.109} = 0.90$). Graduating from a rural high school, on the other hand, has no significant effect on the overall population. Now, looking only at the indigenous population, rurality seems to be more impactful in this group because the negative effect of a rural middle school is larger (-27% in the full model, $e^{-0.298} = 0.74$), and because graduating from a rural high school has an additional negative impact in some of the models. Splitting the sample by macro-region reveals that a rural high school does not affect the transition into an academic program in any region. However, the impact of a rural middle school varies to a certain extent. In particular, in the central and southern regions, graduating from a rural middle school reduces the likelihood of enrolling in an academic program, regardless of controls. In contrast, this effect dilutes after adding all school characteristics to the model in the northern and metropolitan regions.

For the overall sample and when other school characteristics are not included in the model, the state administration harms the likelihood of enrolling in an academic program, both and the middle school ($e^{-0.304} = 0.74$) and high school level ($e^{-0.095} = 0.91$). However, graduating from a state-administered high school, when other school characteristics are controlled for, increases the likelihood of making this choice by 10% ($e^{0.095} = 1.10$). Testing this finding by

indigenous status shows no relevant difference. On the other hand, checking for regional differences shows that only in the metropolitan region state administration coefficients replicate the overall pattern. In the central and southern regions, state-administered middle schools have a negative effect on this choice. However, state-administered high schools have no impact once other school characteristics are controlled for. Lastly, in the northern regions, both state administration indicators become nonsignificant in the full model.

Lastly, the communal Human Development Index is positively associated with choosing an academic program over not enrolling in higher education (it increases this chance by 172%, $e^{1.001} = 2.72$). However, this effect becomes nonsignificant when including all other covariates. Indigenous and non-indigenous students, analyzed separately, follow this same pattern. Nevertheless, when looking at regional differences, the communal HDI presents varying, even contradictory, effects. While the single effect of increasing this factor on the likelihood of enrolling in an academic program is positive (except for the northern regions, where it is nonsignificant), focusing on the full model, the effect remains positive only in the metropolitan area. At the same time, it is nonsignificant for the southern regions and negative for the northern and central regions.

This last segment refers to the other dyad of the multinomial regression analysis; that is, the coefficients in the models that estimate the **likelihood of enrolling in a vocational higher education program instead of not enrolling in higher education** at all. In the first place, indigenous status does not seem to affect the decision between a vocational program over not attending higher education. The indigenous coefficient is statistically nonsignificant in almost all of the model specifications. Splitting the global sample by region shows the same result, except for the central regions, where indigenous students are more likely to enroll in a vocational program than not enrolling. However, this effect disappears when controlling for school SES.

Concerning gender, according to the analysis of the total sample, girls are about -17% ($e^{-0.192} = 0.83$) less likely to enroll in a vocational higher education program than not to enroll at all. On the contrary, they are more likely not to attend a higher education institution than at a

vocational program. This coefficient remains robust regardless of which covariates are included in the model. However, this is the case only for non-indigenous students because the regression analysis of the indigenous subsample produces only nonsignificant gender coefficients. Interestingly, when checking for regional differences, the negative effect for the gender coefficient only appears in the central and metropolitan regions; in the northern and southern regions (those with a larger indigenous population), the gender coefficient is nonsignificant across all models specifications.

In the same way, vocational high school education has a negative and persistent impact on the likelihood of enrolling in an academic higher education program (instead of not enrolling), graduating from a vocational high school significantly increases the chance of attending a vocational HE program, rather than not attending HE. Although this effect decreases from +60% ($e^{0.471} = 1.60$) to +13% ($e^{0.122} = 1.13$) when adding all covariates, it remains strongly significant across models. Nevertheless, in this case, the impact of a vocational high school varies by indigenous status because indigenous students who graduate from vocational and academic high schools do not vary in their chance of choosing a vocational program over not enrolling in higher education. Additionally, looking at regional results, in the central and southern regions, the positive effect of a vocational high school on HE vocational enrollment becomes nonsignificant when adding all covariates to the model.

Overall, a one-unit increase in the share of students in financial aid increases the likelihood of enrolling in a vocational program (rather than not enrolling); this is true for both middle school and high school. For middle school, the increase is 25% ($e^{0.223} = 1.25$), while the coefficient for high school shows a much more significant increase of +360% ($e^{1.524} = 4.60$). However, for indigenous students only, middle and high school SES are practically nonsignificant, with or without other controls. Moreover, checking for regional variations shows that only the metropolitan region replicates the findings for the overall sample. In the northern and central regions, middle school SES has no significant effect, and oddly, in the southern regions, middle school SES has a negative effect. In contrast, the coefficient for high school SES is positive.

Interestingly, rurality shows almost no impact on the choice between a vocational program and no higher education enrollment. In the overall sample, a rural middle school reduces the chance of making this choice by -8% ($e^{-0.088} = 0.92$) and a rural high school by -21% ($e^{-0.234} = 0.79$). In both cases, this effect appears when controlling for all other school characteristics. Exploring differences by indigenous status shows that, among indigenous students, only high school rurality has a significant and negative impact. Dividing the sample by macro-region shows that rurality has no impact in the southern and metropolitan regions. It negatively affects the northern regions but only at the high school level, and it negatively affects both levels in the central regions.

Graduating from a state-administered middle school positively affects choosing a vocational program that becomes nonsignificant with other school covariates while graduating from a state-administered high school, when adding all school characteristics, reduces the chances of making this transition by -9% ($e^{-0.097} = 0.91$). Splitting the sample by indigenous status shows that among indigenous students, a state-administered middle school does increase the likelihood of choosing a vocational program by 23% ($e^{0.211} = 1.23$), while high school administration is nonsignificant. Dividing the sample by macro-region permits a better understanding of these contradictory coefficients: in the northern and southern regions, middle school state administration increases the chance of choosing a vocational program in higher education, while high school administration does not affect it. In the central regions, neither middle school nor high school administration has a significant effect once other school characteristics are included. Moreover, the state administration is negatively associated with making this choice in both school levels in the metropolitan region.

Lastly, the communal Human Development Index has no significant impact on the full model. However, without school covariates, it reduces the chance of choosing a vocational program over not enrolling by -59% ($e^{-0.880} = 0.41$). Running the regression models separately for indigenous and non-indigenous students also shows no significant effect in the overall model; however, the partial effect for indigenous students is positive (+121%, $e^{0.792} = 2.21$), while for

non-indigenous students, it is negative (-63%, $e^{-1.004} = 0.37$). Focusing on the regional analyses, communal HDI has no impact on this choice in the northern and southern regions. In contrast, in the central regions, an increase in HDI reduces the chance of making this transition by -39% ($e^{-0.493} = 0.61$) in the full model. In the metropolitan region, oddly, this coefficient has a negative effect (-73%, $e^{-1.314} = 0.27$) in the simpler model, but when adding all other controls, a one-unit increase in HDI increases by 52% the likelihood of enrolling in a vocational program instead of not enrolling in higher education ($e^{0.421} = 1.52$).

Summary of findings and discussion

In the first place, this chapter illustrates the educational trajectories of the 2012 Chilean cohort of seventh-grade students in terms of their transitions from primary to secondary and tertiary education and the different pathways they follow along this process. First, regarding the chances of enrolling in high school after graduating from middle school, these findings indicate that indigenous students are less likely to make this transition, although only if school SES is not incorporated. On the other hand, gender does not affect the chances of enrolling in high school. School characteristics such as low SES, rurality, and state administration are associated with a lower chance of enrolling in high school. However, indigenous students are less affected by school SES and state administration than non-indigenous students. On the contrary, rurality has a more significant impact on indigenous students' chance of making this transition than non-indigenous students.

In the second place, regarding the horizontal dimension of educational stratification, regression analyses estimate the likelihood of enrolling in a vocational high school rather than in an academic high school. Results show that indigenous students are more likely to enroll in vocational high schools, although controlling for other school characteristics lessens this effect (but not in the southern regions). Girls are less likely to enroll in vocational high schools than boys, regardless of model specifications and in all subsamples. Overall, low school SES, rurality, and state administration are associated with a higher chance of enrolling in vocational high

schools. However, the effect of low SES is more negligible for indigenous students and students in northern and southern regions. On the other hand, rurality has a more considerable impact on indigenous students, although this effect only holds across models for students of the central and southern regions. Lastly, the state administration has no impact on indigenous students, while it is more relevant in the central and northern regions.

Next, I turn to the likelihood of enrolling in higher education immediately after graduating from high school. Regression analyses show a negative effect of indigenous status on the chances of enrolling in higher education. However, this effect disappears with other controls, remaining significant only for students in the southern regions. Interestingly, gender has mixed effects depending on the studied group. Indigenous women and men have similar chances of enrolling in higher education.

In contrast, among non-indigenous students and in the central and metropolitan regions, women are slightly less likely than men to enroll in higher education. Oppositely, in the southern regions, women are more likely to enroll in higher education than men. Vocational high school graduates are less likely to transition than academic high school graduates across model specifications and subsamples. This effect is more significant for indigenous students and students in the northern regions. Rurality also affects indigenous students more; this is the only subgroup for which rurality has a negative effect that persists after adding all other controls. Low school SES reduces the chances of enrolling in higher education, but this indicator is less relevant for indigenous and northern regions. State administration also negatively affects this transition, but neither indigenous students nor students in the northern regions are affected.

Lastly, I focus on the horizontal dimension of higher education stratification by estimating the likelihood of enrolling in a vocational program rather than in an academic program. Regression analyses indicate that indigenous students are more likely to enroll in vocational higher education programs than non-indigenous students, but this effect becomes nonsignificant when controlling for school SES. On the contrary, gender and type of high school have strong and consistent effects across all model specifications and for all subsamples: women are less

likely to enroll in vocational programs than men, while vocational high school graduates are more likely to enroll in vocational programs than academic high school graduates. Lastly, low school SES, rurality, and state administration show some degree of influence in choosing a vocational program, although there is important variability across regions and subgroups.

It is essential to keep in mind that these analyses follow one particular cohort and that the sample is restricted to those students who are eligible for making it at the moment of each transition. This restriction implies that students that experienced a delay in the progression, for any reason, are automatically excluded from the models. The transition from high school to higher education is particularly affected by this methodological decision. These analyses include no information about the eventual transition into higher education of the 2012 seventh-graders who repeated a grade. Also, students from previous cohorts who enrolled in higher education in 2018 are not considered in these analyses.

In any case, these results show some apparent patterns. At the moment of the first transition, indigenous students tend to concentrate in vocational high schools much more than non-indigenous students, regardless of their middle school of origin. This information is highly relevant because of what happens when the cohort makes the transition into higher education. Although indigenous status seems less relevant at that time, having graduated from a vocational high school impacts the chances of enrolling in higher education and choosing an academic program. Therefore, these results suggest that indigenous students' trajectories into higher education differ from non-indigenous trajectories, although this differentiation starts earlier in the schooling process.

Moreover, gender does not seem to be a very relevant feature for the vertical dimension of educational stratification. It does not affect the first transition, and its effects on the second transition are mixed. Nevertheless, regarding the horizontal dimension of educational stratification, gender shows a persistent and clear pattern: female students are consistently less likely to go into the vocational track, both in high school and higher education.

In addition, varying school effects across transitions suggest that regional differences are relevant in analyzing educational trajectories. In general, state-administered schools, rural schools, and schools with more students in need of financial aid are associated with lower chances of a timely progression onto the next educational level and a higher chance of choosing the vocational track. However, results suggest that school SES and administration are less relevant for indigenous students' trajectories, while, on the contrary, rurality seems to affect them more.

Looking at regional variations also raises other important questions regarding the distribution of indigenous populations across the country and differences between indigenous peoples. Results for students in the northern and southern regions (areas with a higher proportion of the indigenous population) coincide with the indigenous subsample outcomes in some aspects. For instance, for these subgroups, the effect of low school SES on choosing a vocational high school is smaller than for non-indigenous students and the central and metropolitan regions. However, in other aspects, the northern and southern regions differ: the effect of indigenous status on choosing a vocational high school is more robust in the south; also, the negative effect of indigenous status on the transition into higher education holds across model specifications only in the south. Moreover, rurality hurts the chance of transitioning into high school for indigenous students and the southern regions, but not for students in the northern area.

On the contrary, the state administration has a more significant impact on non-indigenous students and the north, while in the southern regions is not relevant. Furthermore, regarding the second transition, the impact of a vocational high school is more notorious among indigenous students and in the northern regions. In contrast, school SES and state administration are less salient for these two subgroups.

In sum, these findings suggest that the indigenous population is far from being homogeneous regarding their schooling experiences. Moreover, these analyses allow us to hypothesize that indigenous students accumulate more disadvantages in some country regions. Also, the juxtaposition of adverse effects for indigenous students and students in the southern

regions suggests that Mapuche children and youth might be experiencing particular forms of disadvantage.

CHAPTER 5: FIELDS OF STUDY IN HIGHER EDUCATION

The previous chapter explored the trajectories of a cohort of Chilean students by scrutinizing two critical transitions in their educational experiences: the entry to secondary education after completing middle school and the beginning of higher education after graduating from high school. However, given the heterogeneity of the higher education system and the fact that different versions of higher education lead to unequal outcomes, it is crucial to go beyond access to provide a fuller picture of the educational trajectories of indigenous and non-indigenous youth. Accordingly, this second empirical chapter expands on the previous analyses by addressing the field of study students choose when entering higher education.

Higher education enrollment in Chile has expanded tremendously in the past decades, and previously excluded segments of society have gained access to tertiary education for the first time. This trend is true for indigenous populations: between 2005 and 2017, indigenous enrollment in Chilean universities increased by 69%, and the share of indigenous youth that attends higher education nearly doubled during the same period (D. Sepúlveda, 2020). Nevertheless, as described in recent publications, access is only one aspect to consider in understanding the mobility impact of higher education. Therefore, the questions that guide this chapter are: among higher education students, how do indigenous and non-indigenous students differ in the field of study of the program they choose? Do indigenous and non-indigenous students vary in their likelihood of choosing a specific field of study over another? How do their middle school and high school trajectories (i.e., school SES and location; vocational vs. academic high school) relate to their chosen field of study?

The OECD classification of fields of study available in our chosen data includes the area of "Engineering, Industry, and Construction," which groups the subareas of “architecture and construction”, “industry and production”, and “engineering and related professions”. This area of study partially coincides with what is commonly labeled as STEM fields. While enrollment in STEM programs is a matter of particular interest due to the relevance of these fields for post-

industrial market economies and the abundant evidence of a persistent gender gap in access to STEM programs (Maple & Stage, 1991), this chapter also pays attention to two other area choices. One of them is "Social Sciences, Management, and Law," which comprises the subfields of “social and behavioral sciences”, “law”, “management and administration”, and “journalism and information”; and the last field is "Health and Social Services," which includes “medicine”, and “social services”. Each one of these three areas includes about 25% of the undergraduate higher education enrollment in Chile, and each one of them contains one of the three more prestigious and sought-after university programs: engineering, law, and medicine[11]. However, each field also includes a wide variety of technical and professional (vocational) and academic programs associated with varying levels of prestige and economic returns.

Fields of study can be classified in many different ways, depending on the scope and goal of the classification. While the distinction of STEM/no-STEM is often applied in the literature, other scholars refer to quantitatively-based disciplines versus others (Maple & Stage, 1991), or to arts and science disciplines versus professional programs (Goyette & Mullen, 2006). These classifications are relevant because research has shown that different fields of study are associated with uneven returns after graduation (Iannelli et al., 2018; Kirkeboen et al., 2016; Reimer & Thomsen, 2019). Moreover, evidence also indicates that women and racialized groups are more often concentrated in the disciplines and fields that grant fewer returns (Gerber & Cheung, 2008; Gerber & Schaefer, 2004; Goyette & Mullen, 2006; Litzler et al., 2014; Wong, 2015).

Specific methods

This chapter begins with a characterization of the students in the 2012 seventh-grade cohort who enrolled in higher education by 2018. Therefore, the sample for this chapter is 2012 seventh-graders who did not repeat a grade during their school years, nor did they leave the

[11] In the Chilean university system, engineering, law, and medicine are undergraduate programs, in contrast to the United States system.

school system for any reason. Indeed, all students in this restricted sample graduated from high school in 2017. The descriptive part of this analysis is based on a series of tables that disaggregates the sample by field of study – focusing mainly on the three OECD areas that comprise the most significant part of the enrollment -, and by indigenous status, gender, and type of high school (vocational or academic). In addition, each area or field is divided by type of higher education program; that is, whether the programs grant an academic or a vocational degree.

Then, I present the results for a series of regression analyses to identify how students' and schools' characteristics relate to the choice of field of study in higher education. First, analyses focus on binomial logistic regression models estimating the likelihood of enrolling in each of the selected fields of study over enrolling in any other program. In other words, I estimate the likelihood of enrolling in an Engineering, Industry & Construction program over any other field; then, the likelihood of enrolling in a Social Sciences, Management & Law program over any other field; and last, the likelihood of enrolling in a Health & Social Services program over any other. Therefore, each set of regression models are applied to the same total sample. In the second place, I separate vocational and academic programs in each field and then estimate the likelihood of:

- Enrolling in a vocational Engineering, Industry & Construction program over any other vocational or academic program
- Enrolling in an academic Engineering, Industry & Construction program over any other vocational or academic program
- Enrolling in a vocational Social Sciences, Management & Law program over any other vocational or academic program
- Enrolling in an academic Social Sciences, Management & Law program over any other vocational or academic program
- Enrolling in a vocational Health & Social Services program over any other vocational or academic program
- Enrolling in an academic Health & Social Services program over any other vocational or

academic program

Finally, I present predicted probabilities of enrolling in each field and type of program for different groups of students to illustrate the findings from regression analyses better.

Descriptive analysis

Of the about 246 thousand students who were enrolled in seventh grade in 2012, over 84 thousand enrolled in higher education in 2018[12]. Table 59 disaggregates this total by field of study, using the OECD classification (available in the original data). As the table shows, three areas comprise about three-quarters of the total number of students: Engineering, Industry, and Construction (21,051 students, or 25% of the total); Social Sciences, Management, and Law (19,393, or 23% of the total); and Health and Social Services (19,165, or 23% of the total). The other areas, none of which enroll more than 10% of the total, are Agriculture; Sciences; Education; Humanities and Arts; and Services. In this chapter, analyses are centered around the three areas with the largest enrollment.

However, Table 59 does not distinguish between students enrolled in programs that confer academic degrees (*Licenciatura*) or vocational degrees (professional or technical titles). This information can be found in

Table 60: of the 21,051 students in Engineering, Industry, and Construction, 52% are enrolled in a vocational program, and 48% in an academic program. In Social Sciences, Management, and Law, 29% are in a vocational program, and 71% in an academic degree. Furthermore, in Health and Social Services, 32% are enrolled in a vocational program, while 68% are in an academic program. Considering that 40% of the overall sample of students in higher education are in vocational programs and 60% are in academic programs, these numbers suggest that there is a substantial share of vocational program students in the field of

[12] As a reminder, this sample of 84,768 students does not include all 2018 first-year students because individuals from older cohorts who enrolled in higher education in 2018 for the first time are excluded. The analyses in this chapter include students from the original sample who enrolled in higher education in 2018.

Engineering, Industry, and Construction. At the same time, Social Sciences, Management, and Law show the opposite.

This table also shows that across the three selected fields, the share of indigenous students is similarly small: 5% in Engineering[13] and Health[14], and 4% in Social Sciences[15]. On the other hand, there are significant gender differences between fields: while the overall share of female students is 53%, Engineering is 22%, in Social Sciences is 58%, and in Health is 78%. Moreover, looking at the type of high school these students come from, Engineering has the largest share of vocational high school graduates, with a 41% of its enrollment. In comparison, Health has the lowest share (22%), and Social Sciences resembles the overall sample (31%).

So far, this characterization tells us that while the selected fields share a similarly small indigenous enrollment, they differ in other relevant features. Engineering has slightly more students enrolled in vocational programs than in academic programs; it has a large share of students from vocational high schools and a relatively small share of female students. The field of Social Sciences stands out with the largest share of students from academic high schools, but its share of female students and students from vocational high schools are very close to the average. Finally, Health programs have the most significant proportion of female students and the smallest share of vocational high school graduates, and a low proportion of students in vocational programs.

Table 61 presents the same characterization of the selected fields, although dividing each field by vocational and academic programs. This table presents column percentages, which illustrate the portion of students in each field who are indigenous versus non-indigenous, female versus male, and vocational high school graduates versus academic high school graduates. This separation shows that although these areas have similar shares of indigenous students (between 4% and 5%), once we look at vocational and academic programs separately, vocational programs

[13] From here on, by Engineering, I refer to Engineering, Industry, and Construction.
[14] From here on, by Health, I refer to Health and Social Services.
[15] From here on, by Social Sciences, I refer to Social Sciences, Management, and Law.

within each field have larger shares of indigenous students (around 6%) than academic programs (around 3%).

Furthermore, these tables illustrate how gender and type of curriculum are related: while the share of women in Engineering programs, in general, is small (22%), the share of women in vocational Engineering programs is even smaller (11%), and more significant in academic programs (33%). In Social Sciences, while the overall percentage of women is 58%, among vocational programs of this area, women reach 61%. Furthermore, while 78% of students in Health are women, in vocational health programs, females account for 85% of students. These percentages suggest that, although in this sample, women that enroll in higher education are slightly more numerous than men (53% vs. 47%), and although the share of women in academic higher education programs is more prominent than in vocational programs, the presence of women varies significantly across fields.

Coinciding with the findings of the previous chapter, most academic program goers come from academic high schools (86% vs. 14% from vocational high schools). Additionally, among vocational program goers, the share of vocational high school graduates is larger (56% vs. 44% of academic high school graduates). Now, looking at each field, proportions of vocational and academic high school graduates enrolled in vocational and academic higher education programs are similar to the overall distribution in Engineering and Social Sciences. On the other hand, in the area of Health, a slight majority of students come from academic high schools (53%), and vocational high school graduates are a relative minority (47%).

Finally, Table 62 presents row percentages for the same frequencies found in Table 61, which allows us to see how all students of each ethnic, gender, and curriculum category are distributed across fields and types of programs. In the first place, as mentioned earlier, each one of the selected fields comprises about one quarter (~25%) of all students. However, among students in vocational programs, there is a larger share in Engineering (32%) and smaller shares in Social Sciences (17%) and Health (18%). On the other hand, of students in academic

programs, a relatively more minor share enrolls in Engineering programs (20%), and a slightly more significant portion does it in Social Sciences (27%).

Focusing on indigenous students in higher education, we see that the proportion who enroll in Social Sciences (20%) is slightly smaller than the average; however, the distribution of indigenous and non-indigenous students across the different fields is not strikingly different from the overall sample distribution. Nevertheless, gender does show significant variations: in general, women in Engineering are a tiny portion of all women in higher education (10%), while a large fraction of them are in Health (34%). Men show the opposite distribution: 41% of them are in Engineering, while only 10% are in Health programs. These differences become salient when looking at women and men in vocational higher education programs. While only 8% of women in vocational programs are in Engineering, 55% of men in vocational programs are pursuing an Engineering degree.

On the other hand, only 5% of men in vocational programs pursue a Health degree, while 32% of women in vocational programs are. The comparison between women and men in academic programs also suggests that women are more commonly in Health programs while men are more often in Engineering programs. However, in these groups, the differences are less salient.

Lastly, this table presents the distribution of students from vocational and academic high schools across fields. Overall, vocational high school graduates concentrate more on Engineering programs (33%) and less on Health programs (16%) than general distribution. On the other hand, academic high school graduates enroll in Engineering programs in a slightly smaller proportion (21%) than the average sample. Vocational high school graduates who enroll in vocational higher education programs notably choose Engineering programs (38%) over other alternatives, and their least preferred field is Health (15%). Lastly, when academic high school graduates choose vocational programs, they do not seem to concentrate on Engineering more than the average. However, the share who enrolls in Social Sciences is smaller than the average (12%).

Findings from regression analysis

After thoroughly describing the distribution of students across fields and types of programs, this section presents the outcomes of a series of logistic regression analyses estimating the likelihood of enrolling in the selected fields of study. Table 63 presents the log-odds of enrolling in an Engineering program over enrolling in any other field (including Social Sciences and Health); Table 64 provides the same information about enrolling in a Social Sciences program; and Table 65, for Health programs. However, it is also essential to consider the type of program in which students enroll. As the literature shows, vocational and academic degrees often provide different returns and labor opportunities. Therefore, this section also incorporates the outcomes of binomial regression models estimating the likelihood of enrolling in a specific type of program within each field (for instance, enrolling in a vocational Engineering program instead of enrolling in any other field or type of program). These outcomes can be found in Table 66 to Table 71.

Indigenous status does not impact the likelihood of choosing an Engineering program over other fields since this coefficient is nonsignificant across all model specifications; however, the coefficients estimating enrollment in *vocational* Engineering programs are positive and significant, except when controlling for school SES. In other words, disregarding school SES, indigenous students are more likely to enroll in vocational Engineering programs than non-indigenous students. For Health programs overall, indigenous status is nonsignificant in most models. Nevertheless, indigenous students are more likely to enroll in *vocational* Health programs ($e^{0.202} = 1.22$), although this coefficient becomes negative when controlling for school SES ($e^{-0.147} = 0.86$). Indigenous students are also more likely to enroll in *academic* Health programs, but only when not accounting for school characteristics. In Social Sciences programs, indigenous students are less likely to enroll than non-indigenous peers (-20% in the first model; $e^{-0.225} = 0.80$), although this effect loses statistical significance when controlling for school SES. However, when looking at the results by type of program, this effect is present only for *academic* Social

Sciences programs because the indigenous status coefficients do not affect the chance of enrolling in *vocational* Social Sciences programs.

Gender, on the other hand, is very clearly associated with the choice of a field because gender coefficients are highly significant across all model specifications for the three selected fields of study. In Engineering, women are -83% less likely than men to choose a program in this field ($e^{-1.771} = 0.17$) when adding all other covariates. For Social Sciences, the association between being female and choosing this field is positive: women are 36% more likely to enroll in a Social Sciences program than men ($e^{0.308} = 1.36$), controlling for school characteristics. In the case of Health, the association is also positive, but the effect is much more significant: women are 320% more likely to enroll in a Health program than men ($e^{1.436} = 4.20$). Interestingly, regressions for each field and type of program show these same trends.

The type of high school from which students graduated is also strongly associated with the field of study. According to the full model, vocational high school graduates are 81% more likely to enroll in an Engineering program than in any other field ($e^{0.592} = 1.81$). Regarding Social Sciences, vocational high school graduates have a lower chance of enrolling in this field, but this coefficient is only significant when other school characteristics are included. In the full model, vocational high school graduates are almost 50% more likely to enroll in a Social Sciences program ($e^{0.398} = 1.49$). Finally, graduating from a vocational high school reduces the likelihood of enrolling in a Health program by -46% ($e^{-0.608} = 0.54$), even when including all covariates.

Interestingly, graduating from a vocational high school operates oppositely than being female in both Engineering and Health. Additionally, the fact that vocational high school is only relevant for choosing a Social Sciences program when other school characteristics are accounted for suggests that this positive association works only for particular, well-resourced vocational high schools. These institutions (urban, private, 0% of students in financial aid high schools) are scarce.

Now, paying attention to the vocational high school coefficients in the models estimating the chance of entering a vocational and an academic program within each field, we see a picture

that is more similar to what the previous chapter showed: for the three fields selected, vocational high school is positively associated with enrolling in vocational programs, while it is negatively associated with enrolling in academic programs, even when including all other covariates. Vocational high school graduates are 280% more likely to enroll in vocational Engineering programs ($e^{1.334} = 3.80$), and -56% less likely to enroll in academic Engineering programs ($e^{-0.820} = 0.44$); they are 307% more likely to enroll in a vocational Social Science program ($e^{1.404} = 4.07$), and -36% less likely to enroll in an academic Social Sciences program ($e^{-0.447} = 0.64$); and they are 103% more likely to enroll in a vocational Health program ($e^{0.710} = 2.03$)[16], while they are -69% less likely to enroll in an academic Health program ($e^{-1.161} = 0.31$).

Middle and high school SES show similar effects in Engineering and Social Sciences programs when we look at the overall regression outcomes: low SES reduces the chance of enrolling in Engineering, as well as in Social Sciences. Specifically, a one-unit increase in the high school proportion of students in financial aid decreases the likelihood of enrolling in an Engineering program by -41% ($e^{-0.527} = 0.59$) when other school characteristics are incorporated. For Social Sciences programs, on the other hand, both middle and high school SES are negatively associated with programs in this area, across all model specifications: in the case of middle school, in the full model, a one-unit increase in the share of students in financial aid reduces the chance of enrolling in a Social Sciences program by -20% ($e^{-0.217} = 0.80$), while in the case of high school, the chance of enrolling decreases by -60% ($e^{-0.926} = 0.40$). Nevertheless, looking at results by type of program, both in Engineering and Social Sciences, low school SES increases the chance of enrolling in vocational programs. At the same time, it reduces the chance of enrolling in academic programs, regardless of which controls are included.

In contrast with Engineering and Social Sciences, lower school SES is associated with a higher chance of enrolling in Health programs. For middle school, a one-unit increase in the proportion of students in financial aid increases the chance of enrolling in a Health program by

[16] In vocational Health programs, the coefficient for vocational high school is nonsignificant in the full model; thus, this coefficient corresponds to the model that includes all demographics and school characteristics, except for school SES.

45% ($e^{0.371} = 1.45$) in the full model. High school SES shows similar effects, although, in the full model, this coefficient is nonsignificant. This trend coincides with the outcomes for vocational Health programs; however, lower *middle* school SES increases the likelihood of enrolling in an academic Health program, while lower *high* school SES reduces the chance of making this choice.

While school rurality harms the chances of enrolling in higher education (particularly for indigenous students), coming from a rural school has varying effects among students who make this transition. On the one hand, rurality has no significant effect on the likelihood of choosing an Engineering program, neither at the middle school level nor for high school. Middle school rurality has some impact on the type of program (positive for vocational Engineering programs and negative for academic programs), but they are nonsignificant in the full models. On the other hand, graduating from a rural school reduces the chance of enrolling in a Social Sciences program. Although this effect disappears in the full model for middle schools, a rural high school reduces the likelihood of choosing a Social Sciences program by -35% ($e^{-0.426} = 0.65$). Type of Social Sciences program coefficients do not significantly differ from these outcomes. In Health programs, a rural middle school reduces the chance of choosing this field by -10% ($e^{-0.104} = 0.90$), but rural high school has no significant effect. Nonetheless, while a rural middle school has a positive association with enrolling in a vocational Health program, a rural high school has a negative effect. The opposite happens for enrolling in an academic Health program: a rural middle school reduces this chance, but a rural high school, when controlling for other school characteristics, increases the likelihood of making this choice.

Coming from a state-administered school has practically no effect on the choice of an Engineering program instead of programs in other fields. However, it does increase the likelihood of enrolling in a vocational Engineering program, while it reduces the chance of enrolling in an academic program. In the case of Social Sciences, both middle and high school state administrations harm the chances of choosing this field over others. A state-administered middle school reduces the chance of enrolling in Social Sciences by -7% in the full model ($e^{-0.076} =$

0.93). In contrast, the high school coefficient turns nonsignificant when controlling for other school characteristics. Looking at the type of Social Science program, this negative effect is observed only for academic programs, while school administration has no impact on enrolling in vocational Social Science programs. In the case of Health, a state administration is positively associated with choosing this field, but both coefficients become statistically nonsignificant when adding other school controls. The positive effect of state administration is also found for vocational Health programs. However, for academic Health programs, outcomes show a negative effect at the middle school level and a positive effect at the high school level when including other controls.

Lastly, the communal Human Development index shows very distinct and diverging patterns concerning the selected fields. In Engineering, this indicator is nonsignificant, although it is negatively associated with choosing a vocational Engineering program and positively associated with choosing an academic program. However, in both cases, this effect becomes nonsignificant when controlling for other school characteristics. Concerning Social Sciences, a one-unit increase in the communal HDI increases the likelihood of choosing this field by 41% ($e^{0.341} = 1.41$), controlling for other school characteristics. The more specific analysis shows that this is the case only for academic Social Sciences programs; this coefficient is nonsignificant for vocational programs. Moreover, in the case of Health, a one-unit increase in the HDI reduces the chance of enrolling in a Health program by -24% ($e^{-0.281} = 0.76$), controlling for school characteristics; this is also the case for academic and vocational Health programs, although, for the latter, the HDI coefficient becomes nonsignificant in the full model.

Predicted probabilities

One last step of this analysis is to illustrate the more salient regression outcomes using predicted probabilities; these estimations can be found in a series of figures included in the appendices section. In the first place, it is important to clarify that, although I present predicted probabilities for each selected field in the same figure, this does not mean that probabilities are

estimated for each field as three alternatives from which to choose. On the contrary, probabilities in these figures correspond to the likelihood of enrolling in each field instead of enrolling in any other field. In the second place, these estimations are based on a binomial logistic regression model that resembles the full model of the previously presented regression analysis; however, this model specification excludes macro-regions as a methodological consideration regarding the smaller sample size.

For all these estimations, school SES is fixed at 50% of students in financial aid[17], and school administration is set at state administration because these are the more frequent school characteristics for indigenous students. Moreover, age[18], rurality[19], and communal HDI[20] are set at their average values. Figure 8 and Figure 9 present predicted probabilities of enrolling in Engineering, Social Sciences, and Health programs, by indigenous status, and type of high school attended, and for women and men, respectively. Then, Figure 10 and Figure 11 present the same information but separate each field by type of program (vocational or academic). With few exceptions, indigenous status produces only marginal differences between groups; thus, I include another set of figures in which indigenous status is omitted from the regression. Therefore, Figure 12 and Figure 13 present predicted probabilities for enrollment in each field by high school type, while Figure 14 and Figure 15 present these estimations for enrollment in each field and type of program.

I begin by discussing the predicted probabilities of enrollment in each selected field overall. In these figures, the first relevant element is that the predicted probabilities for indigenous (on the left) and non-indigenous (on the right) groups are almost identical. This similarity is not surprising given that the previous regression analysis shows that indigenous status has a minimal influence in choosing a field for this specific sample; however, focusing on students from public, urban, average SES schools show this more clearly.

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[17] This number is chosen because of its proximity to the averages of school SES of municipal schools (60%) and subsidized schools (40%).
[18] The average value for age is 12.2 years old in 2012 when students were in seventh grade.
[19] The average value for this indicator is urban
[20] The average value for HDI is 0.52

On the contrary, the probability of enrolling in each field varies significantly for women and men, and for vocational and academic high school graduates. In the case of women (Figures 6 and 10) who graduated from academic high schools, probabilities of enrolling in each field form a distinct gradient, in which the probability of enrolling in Engineering is the lowest (10%), and the probability of enrolling in Health is the highest (37-38%), while Social Sciences is in between (20%). However, for women who graduated from vocational high schools, these probabilities do not show such apparent differences: enrolling in Engineering (16% probability) is still less likely than enrolling in Social Sciences (27%) or Health (24%), but these differences are slight. On the other hand, among men (Figures 8 and 12), differences are more pronounced among vocational high school graduates: in this group, men have a 52% chance of enrolling in Engineering, 22% chance of enrolling in Social Sciences, and 7% probability of enrolling in Health. Among academic high school graduates, the probability of enrolling in Engineering is still the highest (39%). However, their probability of enrolling in Social Sciences (15%) is only slightly higher than the chance of doing it in Health (12%).

Figures 10 and 11 present probabilities based on the regression model, including indigenous status and with the same fixed values, but for each field and type of program. Separating vocational and academic higher education programs allows us to see one difference based on indigenous status that was unnoticeable in the previous figures. Among women, vocational high school graduates who are indigenous have a 49% probability of enrolling in a vocational Engineering program. In contrast, non-indigenous vocational high school graduates only have a 6% chance of enrolling in a vocational Engineering program. Another difference, although less salient, is that indigenous vocational high school graduates have nearly the same probability of enrolling in a vocational or an academic Health program (10% and 9%, respectively). In contrast, non-indigenous vocational high school graduates are more likely to enroll in vocational Health programs (13%) than in academic programs in the same field (8%). Nevertheless, in all other comparisons, indigenous status produces only marginal differences.

Comparing predicted probabilities for men and women shows that, for women, studying in vocational high schools predicts greater chances of enrolling in vocational programs in all the selected fields. On the other hand, graduating from academic high schools predicts greater chances of enrolling in academic programs. For instance, for Engineering programs, women from vocational high schools have a 6% probability of enrolling in a vocational program and a 3% probability of doing it in an academic one. In comparison, women from academic high schools have a 1% probability of enrolling in a vocational program versus a 7% chance of enrolling in an academic program. For Health programs, on the other hand, vocational high school female graduates have a 13% chance of enrolling in vocational programs and 8% of enrolling in academic ones. In comparison, academic high school female graduates have an 11% probability of enrolling in vocational programs and a 24% chance of doing it in academic programs.

In the case of men, the association between vocational high school and vocational higher education programs and between academic high school and academic program is less evident, showing apparent differences by field of study. Estimations for Engineering programs, on the one hand, and for Social Sciences and Health, on the other, go in opposite directions. For Engineering, vocational high school graduates have a much larger probability of enrolling in a vocational program (44%) than in an academic program (7%). In comparison, academic high school graduates have very similar chances of enrolling in vocational (17%) and academic (16%) programs. For Social Sciences, vocational high school graduates have similar chances of enrolling in vocational (10%) and academic (8%) programs. However, academic high school graduates have a much smaller probability of enrolling in vocational programs (2%) than in academic programs (13%). Lastly, vocational high school male graduates have a 2% probability of enrolling in a vocational Health program and 3% in an academic Health program. In contrast, for academic high school male graduates, these probabilities are 2% and 9%.

Summary of findings and discussion

Regression outcomes indicate that, at this stage and for this particular sample, indigenous status does not affect the choice for any of the selected fields. However, when not controlling for school SES, indigenous students are more likely to enroll in vocational Engineering programs than any other program. They also are more likely to enroll in vocational Health programs and are less likely to enroll in academic Social Sciences programs. In contrast, gender has a clear impact on this decision: women are less likely than men to enroll in an Engineering program than in any other. Additionally, they are more likely than men to enroll in Social Sciences and Health, regardless of whether it is a vocational or an academic program. Another indicator that has a clear and consistent impact on program choice is graduating from vocational higher education. This group of students is more likely to enroll in vocational higher education programs than academic high school graduates, whether they are Engineering programs, Social Sciences, or Health. On the contrary, graduating from a vocational high school has a negative association with academic programs in any of the selected fields.

Other school characteristics included in the analyses have varied, even contradictory effects. Overall, low school SES is positively associated with a greater chance of enrolling in Engineering and Health programs, but it negatively relates to Social Sciences programs. Nevertheless, looking at vocational and academic programs separately, for the fields of Engineering and Social Sciences, low school SES has a positive effect on the choice for a vocational program and a negative effect on the choice for academic programs. Rurality and state administration, on the other hand, has no impact on Engineering programs, while they negatively affect the choice for Social Sciences programs. However, dividing these fields by type of program shows varying effects; for instance, rurality hurts the chance of choosing academic programs, although not in Engineering. Lastly, the relationship between school characteristics and Health programs requires a more complex analysis because middle school and high school indicators show contrasting effects. Rurality and state administration at the middle school level negatively

impact the likelihood of enrolling in an academic Health program. However, at the high school level, their impact is positive).

This chapter provided a detailed characterization of the areas of study in which the selected individuals enrolled once they began their higher education. However, there are certain limitations to this analysis that are important to keep in mind: on the one hand, these estimations do not take into account the availability of institutions in each territory nor the offer of programs in each field; on the other hand, we do not know if the program in which a student enrolled was their first choice, or whether they applied to different programs. Therefore, the results in this chapter do not speak about preferences or orientations. In any case, this characterization is relevant in that it complements information about the trajectories of the indigenous population across the education system.

CHAPTER 6: EDUCATIONAL TRAJECTORIES IN TIMES OF POLICY CHANGES

In Chile, during the last two decades, debates about education and inequality have proliferated in private and public spaces, from academia to government agencies, from the parliament to the streets and activists' assemblies. During this time, education has been at the center of political debates. The mobilization and organized protest of students (mainly high school students) have been the main driving force that motivates these reflections. Indeed, it is impossible to separate the current political process of writing a new constitution (one that retires the constitution imposed by force during the 1973-1990 dictatorship) from the student demonstrations against the rise in the subway fare that ignited the social uprising of October 2019. However, before this pivotal moment, the Chilean student movement had already changed the political agenda by carrying out massive demonstrations (first in 2006, but most saliently in 2011). Their demand for a better educational system - "public, free of charge, quality education for all"- became the claim of a growing majority.

Building upon the demands of the 2001 and 2006 demonstrations, the 2011 student movement had a tremendous impact on the Chilean society, to the point that it motivated far-reaching educational policy reforms, like the introduction of free-of-charge higher education and the end of student selection in publicly-funded schools. Expectedly, these policy changes have found resistance among specific sectors of society, particularly those who supported the 1981 market-oriented education reform that installed the school voucher system and the deregulation of the higher education market.

Despite the social and political impact of the 2011 mobilizations, implementing policy reforms has not been a simple or speedy process. For instance, while president Michelle Bachelet included the free-of-charge higher education reform in her 2013 campaign, this measure was introduced through the budget law for 2016 instead of doing it through a permanent law (Arzola, 2019, p. 7). The post-2011 policy changes have not reached the extent nor depth of the 1980s reforms: the school system is still severely segregated, access to higher education is still

heavily affected by family background, and although higher education enrollment has dramatically increased, universities and other institutions still heavily rely on families for financing their operation. However, it is crucial to assess whether and to what extent the introduced reforms have affected educational trajectories.

Accordingly, in this last empirical chapter, I analyze the educational trajectories of indigenous and non-indigenous students of earlier cohorts regarding their vertical and horizontal stratification. Specifically, the questions guiding this chapter are: how have the educational trajectories of indigenous and non-indigenous students changed during the past decade? To what extent do recent changes in higher education policy in Chile coincide with changes in access to higher education of indigenous and non-indigenous students? Does this association vary by gender, SES, and location?

In previous chapters, analyses have focused on the 2012 seventh-grader cohort and their pathway to higher education, which occurred as early as 2018. This chapter compares the 2012 cohort trajectories to 2011, 2010, and 2009 cohorts, who could start higher education as early as 2017, 2016, and 2015. This comparison gives us the chance to explore whether the introduction of free-for-all higher education, which was first implemented in 2016 and then expanded in 2017 and 2018, is associated with greater access to higher education for indigenous students.

At the time of its introduction through the 2016 budget law, the free-of-charge program targeted students below the 50% threshold of the income distribution. The program covered the 25 traditional (pre-1981) universities and five private universities with at least four years of accreditation (which also renounced to charging tuition fees). Then, in 2017, this benefit was extended to students in the first five income deciles in any higher education institution with at least four years of accreditation, but with the requirement of being non-for-profit[21]. Later, in 2018, the program was extended to include the sixth income decile, which in practice reached over 340 thousand students across 45 higher education institutions (Arzola, 2019).

[21] As stated earlier, professional institutes and technical training centers are legally allowed to be for-profit; thus, they had to give up this benefit to be part of the free-of-charge program.

Specific methods

For this chapter, I first provide descriptive figures that summarize the educational trajectories of indigenous and non-indigenous students from middle school to high school and higher education in each cohort from 2009 to 2012. This section also includes figures comparing vocational and academic high school progressions into different types of higher education programs. Then, as a manner of contrasting this information, I provide figures showing the total higher education enrollment by year from 2009 to 2019, taking into account type of program, type of institution, age groups, and age at the time of starting higher education.

In the second place, I repeat the logistic regression analyses presented in chapter IV, estimating the likelihood of enrolling in higher education and enrolling in a vocational program instead of an academic program. I compare regression outcomes for cohorts 2009, 2010, and 2011 to those of the 2012 cohort. Each cohort receives the same data treatment and analysis procedures already administered to the 2012 cohort because the data structure is the same across cohorts. However, there is one notable exception: databases before 2010 do not count with an indigenous status indicator; therefore, for the 2009 cohort, instead of using the indigenous status variable for their seventh-grade year as in all the other cohorts, I use their indigenous status information for their eighth-grade year (2010).

Lastly, in order to facilitate this comparison, I present predicted probabilities for each cohort. First, I provide predicted probabilities for the likelihood of enrolling in higher education for each cohort, and second, for the likelihood of enrolling in a vocational higher education program instead of in an academic program. In both cases, estimations are based on binomial logistic regression models that include demographics, rurality, school administration, school SES, and communal HDI.

Descriptive analysis

Cohort comparisons

Table 72 presents the sample for each cohort, following the same logic as for the target cohort. In other words, each cohort starts with all students in seventh grade, only excluding inconsistent observations. Oddly, this number slightly declines in each successive cohort, from 265,672 in the 2009 cohort to 245,673 in the 2012 cohort. This table also presents the number of students who begin high school on time, the number of students who reach the last year of high school on time, and the number of students who enroll in higher education immediately after graduating high school on time. Figure 16 illustrates this progression, showing that, overall, the share of students completing high school in the expected year goes from 59% for the 2009 cohort[22], to 65% for the 2012 cohort[23]. Furthermore, the share of each cohort that enrolled in higher education immediately after graduating high school on time went from 33% in the 2009 cohort[24], to 37% in the 2012 cohort.

Table 73 and Figure 17 disaggregate this information by indigenous status, illustrating the gap between indigenous and non-indigenous students regarding the pace of their progression through the schooling process. Across cohorts, this achievement gap starts very small since the proportion of indigenous and non-indigenous students who reach high school on time is very similar. The most significant gap is for the 2010 cohort (enrolling in higher education in 2012), in which 84% of the indigenous students in the cohort reach high school on time, versus 87% of non-indigenous students in the cohort. However, for the other cohorts, this three-percent difference is only one or two percent.

Nevertheless, as Figure 17 shows, the achievement gap between indigenous and non-indigenous students increases across the educational progression: the proportion of indigenous students who reach the last year of high school on time is 54% for the 2009 cohort and 59% for

[22] Of all the students in seventh grade in 2009, by 2014, 59% were in their last year of high school.
[23] In other words, of the original 2012 seventh-grader cohort, 65% were in their last year of high school by 2017.
[24] This means that 33% of the original 2009 cohort began higher education in 2015.

the 2012 cohort, while, for non-indigenous students, this share is 61% for the 2009 cohort, reaching 66% for the 2012 cohort. That is, for both the indigenous and non-indigenous subsamples, a slightly larger share of students finishes high school on time in each successive cohort, and the gap between them remains relatively constant. Lastly, looking at the final part of this figure, the indigenous gap is slightly more significant for students who enroll in higher education immediately after high school, although both subsamples slowly increase their high school enrollment with each successive cohort. For the 2009 cohort, 25% of indigenous students reached this threshold versus 34% of non-indigenous students. In contrast, for the 2012 cohort, these proportions are 30% and 37%.

Table 74 and Figure 18 describe each cohort's progression through high school, particularly for the vocational and academic tracks, from a horizontal stratification perspective. Specifically, these elements show each cohort's frequencies and proportions reaching the first and the third year of high school for vocational and academic tracks. This distinction is relevant because, although the specialized curriculum is implemented only in the third and fourth years of high school, studies show that most students choose one type of curriculum when they start their high school education. According to Table 74 and Figure 18, although the total number of students enrolled in the vocational track decreases for each successive cohort, it is also true that this number increases from the first to the third year of high school. On the contrary, between the first and the third year, the number of students enrolled in the academic track drops drastically. For instance, for the 2009 cohort, almost 167 thousand students were in the first year of an academic high school in 2011; by 2013, only 101 thousand were enrolled in the third high school year. For the 2012 cohort, 162 thousand were in first grade of high school by 2014, while only 108 thousand enrolled in third grade by 2016.

Table 75 and Figure 19 also illustrate high school progression by track but separating each cohort in indigenous and non-indigenous students. Comparing these subsamples show the same trend between cohorts than the previous table and figure; that is, students in the vocational track slightly increase in number once high school years pass by, while the academic track sees

a decrease in students progressing on time. Nevertheless, across the four cohorts, the reduction in the academic track between the first and third grades of high school is more pronounced among indigenous students. Regarding this point, it is essential to underscore that this loss refers to students who are progressing "on time"; thus, it combines track changes, grade repetition, and desertion.

Regarding higher education enrollment after completing high school, Table 76 and Figure 20 present the number of students of each cohort who enroll in a vocational program the following year after their expected high school graduation; those who enroll in an academic program; and those who do not enroll in any undergraduate program[25]. These data show that, for all cohorts, the share of students who do not immediately enroll in high school is larger than the share of those who do and that more students enroll in academic programs, although both rates tend to increase slowly. Accordingly, the proportion of students in each cohort that chooses not to enroll in higher education slightly decreases, from 67% in the 2009 cohort (2015 being the year they could access higher education) to 64% in the 2012 cohort (in 2018). In any case, these differences are pretty slight.

Now, turning to Table 77 and Figure 21, we see that, for all cohorts, indigenous and non-indigenous students who enroll in higher education immediately after completing high school show opposite trends: while in the indigenous subsample, more students enroll in vocational programs, among non-indigenous students, a majority opts for academic programs.

This characterization of the educational trajectories of seventh-grade students of 2009, 2010, and 2011 is consistent with Chapter IV's description regarding the 2012 seventh-grader cohort. This relative stability in itself is not surprising. Nevertheless, it is interesting to see what happens with these cohorts' access to higher education, considering that the years in which they become eligible for enrolling in tertiary education (2015, 2016, 2017, and 2018 respectively) is the period in which the free-of-charge higher education reform was progressively implemented in

[25] Because the data shows enrollment by year and not graduation or promotion, the category "none" includes students who enrolled in their last year of high school the prior year. Thus, they might have graduated and not enrolled in higher education or have not graduated from high school.

Chile. At first sight, the introduction of this reform does not seem to have significantly altered the proportion of students who, having completed school at the expected pace, immediately enroll in higher education; neither seems to have changed the gaps between indigenous and non-indigenous students.

Higher education enrollment by year

Because the descriptive analysis presented so far focuses on students' educational trajectories who made a timely progression across their school years, it is helpful to compare these data to the total higher education enrollment of each year. This section presents figures showing higher education enrollment in undergraduate programs in Chile from 2009 to 2019. In contrast to the previous section, in these figures, each year's total enrollment includes students who started higher education at any time and not only those who just graduated from high school. Figure 22 and Figure 23 divide each year's total enrollment by the type of degree they confer, whether it is an academic or vocational one. Interestingly, while enrollment in academic programs seems to have gradually increased between 2009 and 2019, enrollment in vocational programs shows a steady increase from 2009 to 2015 and then a tenuous decrease between 2015 and 2019. Let us look at the proportion of vocational and academic undergraduate students each year in Figure 23. We see that, in 2009, 58% of enrollment was in academic programs and 42% in vocational programs. This gap narrows down to the point of disappearing in 2014 when the total enrollment is practically 50/50. Moreover, in 2015 vocational enrollment surpassed academic enrollment, but from that moment on, this trend is reversed. By 2019, academic enrollment (52%) again surpasses vocational enrollment (48%), but the gap is much smaller than at the beginning of this series.

Another way of looking at higher education is dividing enrollment by type of institution instead of by type of program. Figure 24 and Figure 25 show frequencies and percentages for universities, professional institutes, and technical training centers from 2009 to 2019. While the three types of institutions see an increment in their undergraduate enrollment during this period,

the most remarkable change seems to be that of professional institutes, which practically double the number of students between 2009 and 2015. However, from 2015 to 2019, this curve flattens. Technical training centers, on the other hand, experience a slight decrease in enrollment after 2015. Now, looking at the proportion of students in each institution category, the most relevant changes are between universities and professional institutes: while in 2009, 64% of enrollment corresponded to universities, 23% to professional institutes, and 13% to technical training centers, by 2019 universities concentrated 56% of enrollment, professional institutes had 32%, and technical training centers 12%.

Demographic characteristics of higher education students are also an important topic to take into account. Figure 26 and Figure 27 present the age composition of enrollment each year, indicating that between 2009 and 2015, the Chilean higher education system saw an increase in the number of students who were 20 to 24 years old, but also of students who were 25 years old and above. The upward trend of these two age groups stabilizes by 2014 for the 20-24 years old group and 2016 for the 25+ group.

Last, in this section, Figure 28 and Figure 29 show the age composition by year, but only for students who enrolled in higher education for the first time each year. In this case, while most of the enrolled each year is no more than 19 years old, the number of 20-24 years old students initially increases, but from 2014 on, it starts to decline. On the other hand, the amount of 25+ who enroll in higher education for the first time increases each year up to 2015 and seems to stabilize starting that year. The youngest age group represents 42% to 47% of first-year enrollment in terms of proportions, depending on the year. In contrast, the 20-24 years old group went from 35% in the first years to 29% in 2019, and the 25+ age group increased from 20% to 27%.

All in all, while the descriptive analysis of 2009-2012 cohorts did not show drastic changes, the comparison of the 2009-2019 cross-sectional data on higher education enrollment suggests that the expansion observed in the first years of this time trend (from 2009 to 2014/2015) is followed by a period of stabilization from 2015 onwards. Unfortunately, the detailed

regression analyses performed for the 2012 cohort in the first chapters cannot be replicated for the total enrollment each year because the higher education data include fewer variables than the school data.

Findings from regression analysis

In this section, I compare regression outcomes for the four successive cohorts to identify differences among them regarding the transition into higher education. These analyses do not allow for any causal association between policy changes and educational trajectories. However, paying attention to differences in regression coefficients helps us provide a fuller picture of whether and how indigenous and non-indigenous students' educational trajectories shift during this period of policy innovation. Table 78 presents the outcomes for the binomial logistic regression models estimating the log-odds of enrolling in higher education instead of not enrolling for the 2009 cohort; Table 79 for the 2010 cohort; and Table 80 for the 2011 cohort. Then, Table 81 presents the binomial logistic regression models estimating the log-odds of enrolling in a vocational higher education program instead of doing so in an academic higher education program for the 2009 cohort. Table 82 and Table 83 describe this information for cohorts 2010 and 2011, respectively.

Vertical stratification

Concerning the likelihood of enrolling in higher education immediately after graduating from high school, predictors in each cohort model are relatively similar. For instance, indigenous students are less likely to enroll in higher education than non-indigenous students across cohorts. However, the inclusion of school SES combined with other school characteristics makes this indicator lose significance. However, for the 2009 cohort (which year of entry to higher education is 2015), the indigenous coefficient becomes significant and positive once all other controls are included. For the following cohorts, this coefficient is nonsignificant in the full models. On the other hand, the gender coefficients indicate that women are less likely to enroll in higher

education than men, across all cohorts, and for all model specifications. In the full model, this effect goes from -9% ($e^{-0.093} = 0.91$) for the 2009 cohort, to -7% ($e^{-0.069} = 0.93$) for the 2012 cohort. However, looking at the indigenous subsample and the northern and southern regional subsamples, gender coefficients show mixed results. For instance, in the southern regions, female students are more likely to enroll in higher education in all cohorts, except for the 2011 cohort. Among indigenous students, gender is not significant except for the 2010 cohort, for which this effect is positive across model specifications.

The negative impact of graduating from a vocational high school on the chance of attending higher education is strong and consistent across cohorts and models. However, the size of this effect is smaller for each successive cohort: from -57% chances in 2009 ($e^{-0.850} = 0.43$), -51% chances in 2010 ($e^{-0.705} = 0.49$), going to -43% chances for the 2011 cohort ($e^{-0.555} = 0.57$), and -36% chances for the 2012 cohort ($e^{-0.448} = 0.64$). The indigenous, northern, and southern subsamples present the same declining size effect for vocational high school education.

About school SES, cohort comparison shows an interesting pattern: although for each cohort's overall sample, a one-unit increase in the share of students in financial aid (both in middle school and high school) reduces the chance of enrolling in higher education, the size effect for middle school SES is larger for each successive cohort, while the high school SES effect is smaller for each successive cohort. Specifically, looking at the full model of each cohort, the negative impact of low middle school SES is -19% in 2009 ($e^{-0.206} = 0.81$), -35% in 2010 ($e^{-0.425} = 0.65$), -37% in 2011 ($e^{-0.459} = 0.63$), and -36% in 2012 ($e^{-0.440} = 0.64$). On the other hand, the negative impact of low high school SES goes from -73% in 2009 ($e^{-1.328} = 0.27$), to -71% in 2010 ($e^{-1.251} = 0.29$), to -64% in 2011 ($e^{-1.020} = 0.36$), and to -46% in 2012 ($e^{-0.622} = 0.54$). Although with small variations, the analyzed subsamples confirm this pattern.

The impact of rurality on access to higher education seems to be evenly declining across cohorts for the overall samples. At the high school level, the rurality coefficient is practically nonsignificant for all cohorts. However, completing middle school in a rural institution harms the

chances of enrolling in higher education. Nevertheless, this coefficient only is statistically significant across all model specifications for the 2009 cohort. In this cohort, rural middle school graduates are -12% less likely to make this transition ($e^{-0.128} = 0.88$), controlling for other school characteristics. For 2010, 2011, and 2012 cohorts, rural middle school has no significant effect when other controls are added.

However, the opposite pattern seems to occur among indigenous students. For this subsample, while middle school rurality is not significant when all other controls are included, rural high school has a negative impact (although somewhat significant) for the 2012 cohort ($e^{-0.258} = 0.77$). Looking at the regional subsamples, students in the northern regions coincide with the indigenous subset. However, the southern regions show different results: rural high school has no effect across cohorts. In contrast, rural middle school has a negative effect, but it only holds for all model specifications in the 2009 and 2012 cohorts.

For the full sample of each cohort, having studied in a state-administered school harms the likelihood of enrolling in higher education immediately after graduating from high school; however, this effect seems to decline over time since it is smaller for each successive cohort. While a state-administered high school has no significant effect across cohorts, a state-administered middle school reduces the chance of making this transition by -16% in 2009 ($e^{-0.178} = 0.84$), by -12% in 2010 ($e^{-0.128} = 0.88$), by -8% in 2011 ($e^{-0.088} = 0.92$), and by -5% in 2012 ($e^{-0.054} = 0.95$). The comparison with the indigenous, northern, and southern subsamples partially confirms this trend. While for the 2009 and 2010 cohorts, these coefficients vary, for the 2011 and 2012 cohorts, the three subsamples show no impact of a state-administered middle school.

Horizontal stratification

This section compares the regression coefficients estimating the likelihood of enrolling in a vocational program instead of an academic program for each 2009-2012 cohort. Before controlling for school SES, indigenous students are more likely to enroll in vocational higher

education programs than non-indigenous peers. However, adding school SES to the model turns indigenous status nonsignificant. Although focusing on the indigenous and regional subsamples reveals specific variation, the overall trend holds. The same happens with the gender coefficient: while there are minor variations by subsample, overall, women are less likely to enroll in vocational higher education programs than men, across cohorts and model specifications. For the overall samples, women in the 2009 cohort are -28% less likely to enroll in a vocational program ($e^{-0.323} = 0.72$). Women in the 2012 sample are -32% less likely to make this choice ($e^{-0.385} = 0.68$).

Having graduated from a vocational high school has a strong and positive effect on choosing a vocational higher education program across cohorts and model specifications. Although the size of this coefficient decreases when other school characteristics are incorporated, the effect remains strong and is consistent for the different subsamples.

Low school SES also has a strong positive effect on the chance of choosing a vocational higher education program both at the middle school and high school level. However, the size effect of high school SES is much more significant, albeit decreasing. For the full models, a one-unit increase in the share of students in financial aid for the 2009 cohort increases this chance by 58 times ($e^{4.063} = 58.14$). For the 2010 cohort, this chance increases by 42 times ($e^{3.742} = 42.20$). For the 2011 cohort, by 27 times for the 2011 cohort ($e^{3.305} = 27.25$), and by 27 times for the 2012 cohort ($e^{3.286} = 26.73$).

On the other hand, among indigenous students, middle school SES has no significant impact. In contrast, although it is strong and positive for all cohorts, the effect of high school SES oscillates from 14 times greater chance in 2009 to 19 times in 2010, then seven times in 2011, and then 18 times in 2012. The northern and southern regions show similar results, including a decrease in the size of the high school SES effect for the 2011 cohort.

Rurality also seems to have a changing impact over time. Completing primary education in a rural school increases the chances of enrolling in a vocational higher education program across cohorts. However, for the 2012 cohorts, this effect becomes nonsignificant when adding

all school characteristics. Graduating from a rural high school, on the other hand, shifts from a positive effect that disappears in the full model for the 2009 and 2010 cohorts to an adverse effect only when all school characteristics are accounted for, in the cases of the 2011 and 2012 cohorts. All in all, this suggests that for each successive cohort, rurality's effect on the choice of program declines. The indigenous subsample presents a similar pattern. Regarding the regional subsets, rurality has practically no impact in the northern regions. In contrast, a rural middle school has a positive effect across models and cohorts in the southern regions, and a rural high school is nonsignificant with school controls.

Lastly, state school administration at the middle school level has a consistent and positive impact on the choice for a vocational higher education program, although it decreases in size for the 2010 and 2011 cohorts ($e^{0.314} = 1.37$ in 2009; $e^{0.189} = 1.21$ in 2010; $e^{0.167} = 1.18$ in 2011, and $e^{0.238} = 1.27$ in 2012). However, a state-administered high school has a decreasingly positive impact: for 2009, 2010, and 2011 cohorts, a high school state administration has a positive effect that becomes nonsignificant when adding all school controls; for the 2012 cohort, on the other hand, state administration reduces the chance of choosing a vocational program when other school characteristics are incorporated. Among indigenous, northern, and southern students, there is a coincidence with the overall samples. Middle school state administration increases the likelihood of choosing a vocational program across cohorts (although these coefficients are nonsignificant for the 2010 indigenous sample). On the other hand, the impact of a state-administered high school is mixed.

In sum, the regression coefficients associated with demographic characteristics (i.e., indigenous status and gender) seem relatively stable across these four cohorts when estimating the likelihood of enrolling in higher education over not enrolling. Nevertheless, school characteristics like rurality, SES, and administration seem to be losing salience because these coefficients are smaller for each successive cohort. This pattern of declining effects seems to also be in place for the likelihood of choosing a vocational program instead of an academic program. Nevertheless, this hypothesis requires further exploration, mainly because the analysis of

different subsamples shows some relevant variations. For instance, in some cases, the overall sample indicates a more substantial impact of the characteristics of the middle school in which a student completed eighth grade. In contrast, for the indigenous subset, high school characteristics seem more impactful. Understanding what is driving these differences requires a more detailed analysis that incorporates information not available in these data, such as resource availability in each area, particularly of schools and higher education institutions.

Predicted probabilities

Lastly, to illustrate whether and how regression outcomes vary for the four cohorts, this section presents predicted probabilities. Following the logic of Chapter V, these estimations are based on binomial logistic regression models that resemble the full model of the regression analyses estimating the likelihood of enrolling in higher education for each cohort and the likelihood of choosing a vocational program over an academic program. Of course, the second set of regression models are restricted to students who enroll in higher education the year after graduating from high school. For the 2009 cohort, this year is 2015; for the 2010 cohort, 2016; for the 2011 cohort, 2017; and for the 2012 cohort, the year is 2018. All models exclude macro-regional dummy variables. For all these estimations, school SES is fixed at 50% of students in financial aid[26], and school administration is set at state administration because these are the more frequent school characteristics for indigenous students. Moreover, age[27], rurality[28], and communal HDI[29] are set at their average values.

The first set of figures presents predicted probabilities of enrolling in higher education over not enrolling, for each cohort, by indigenous status, gender, and type of high school. Figure 30 in the appendices summarizes this information, while Figure 31 and Figure 32 divide these

[26] This number is chosen because of its proximity to the averages of school SES of municipal schools (60%) and subsidized schools (40%).
[27] For each cohort, the average value for age is 12.2 years old at the time when students were in seventh grade.
[28] For each cohort, the average value for this indicator is urban.
[29] The average value for HDI is 0.51 for each cohort.

estimations by gender for a more straightforward interpretation. The orange bars represent female students in these figures, while the blue bars represent male students. Also, darker colors indicate indigenous students, while lighter colors are non-indigenous students. Finally, solid bars are vocational high school students, while bars filled with a spotted pattern represent academic high school students.

Confirming findings from the previous sections, vocational high school students are less likely than academic high school students to enroll in higher education. Female students are slightly less likely to make this transition than males within each ethnic and school group. In the second place, although the gap against vocational high school students is present across all cohorts, the distance between vocational and academic students is smaller in each successive cohort and for all subgroups. For instance, among indigenous women, the predicted probability of enrolling in higher education for the 2009 cohort is 39% for vocational high school students and 61% for academic high school students. For the 2012 cohort, these probabilities are 49% and 60%. Among non-indigenous women of the 2009 cohort, vocational high-schoolers have a 37% probability of making this transition versus 58% probability for academic high-schoolers; for the 2012 cohort, these probabilities are 47% and 59%. The same pattern holds for indigenous and non-indigenous men.

This shrinking gap between vocational and academic high schoolers seems to be because, for each successive cohort, vocational students' probability of enrolling in higher education increases. In contrast, probabilities for academic high schoolers behave differently. Among academic high school students, indigenous women's probability goes from 61% in 2009 to 57% in 2010, then to 58% in 2011, and up to 60% in 2012. For indigenous men in academic high school, probabilities go from 63% in 2009 to 59% in 2010, 61% in 2011, and 62% in 2012. Non-indigenous students in academic high schools present the same downward-then-upward trend. Although differences are minor in size, it is interesting that while vocational high school students seem to be gaining more access to higher education, particularly after 2016, academic high school students see a slight decrease in their chances between 2016 and 2017.

The next set of figures present the predicted probabilities of enrolling in a vocational high school instead of an academic high school for each indigenous status, gender, and high school type. Figure 33 presents all predicted probabilities, while Figure 34 presents probabilities only for women and Figure 35 only for men. Opposite to the previous figures, in this case, probabilities for vocational students are more prominent than for academic students, among indigenous, non-indigenous, female, and male students. On the other hand, within all groups, women are less likely to choose a vocational program than men.

Notably, for all groups, predicted probabilities are similar between 2009 and 2010, while they decline in 2011 and 2012. For indigenous women in vocational high schools, probabilities are 67% for the 2009 and 2010 cohorts, while they are 62% in 2011 and 59% in 2012. Among non-indigenous women in vocational high schools, for the 2009 and 2010 cohorts, the probability of choosing a vocational program is 72%, while for the 2011 cohort is 68%, and for the 2012 cohort is 63%. Among academic high schoolers, indigenous women in the first cohorts have a probability of 34% choosing a vocational program, compared to 28% for the 2011 cohort and 26% for the 2012 cohort. Among non-indigenous women, on the other hand, the 2009 and 2010 cohorts have a 39% and 40% probability of making this choice, compared to 34% for the 2011 cohort and 29% for the 2012 cohort.

Predicted probabilities for male students follow the same pattern as female students. In addition, for both men and women, and within each high school type, indigenous students are slightly less likely to enroll in vocational higher education programs than non-indigenous students. This finding might be related to the higher education market offer available for indigenous and non-indigenous students; thus, it requires further exploration.

In sum, for graduates from mid-SES, state-administered urban schools, the chance of enrolling in higher education after graduating from a vocational high school seems to be more significant for each successive cohort. In contrast, academic high school graduates of the intermediate cohorts (2010 and 2011) see a slight decrease in their enrollment probabilities. On the other hand, for vocational and academic high school graduates, although they differ in their

probability of enrolling in vocational higher education programs instead of in academic programs, these probabilities are slightly lower for the more recent (2011 and 2012) cohorts.

Summary of findings and discussion

This chapter offered a thorough characterization of the educational trajectories of 2009, 2010, 2011, and 2012 cohorts of seventh-grade students in the Chilean school system. These cohorts were chosen because the years they began enrolling in higher education coincided with the period that the free-of-charge higher education reform was progressively implemented.

In the first place, descriptive analyses show that these data coincide with previous studies observing increased higher education enrollment. From 2009 to 2012, each cohort has more students who reach the end of their schooling process at the expected time. Although the number of students who enroll in higher education immediately after timely high school graduation is less than half, each cohort sees a slight increase in this category.

On the other hand, all cohorts see an achievement gap against indigenous students, which expands as schooling progresses. This gap implies that fewer indigenous than non-indigenous students immediately enroll in higher education. Nevertheless, in each successive cohort, both groups increase their enrollment.

The selected cohorts also show consistent patterns regarding vocational and academic education. Although more students graduate from the academic track during high school, the vocational track numbers grow from the first to the last year of high school, while the academic track experience a decline. Moreover, more academic high school graduates immediately enroll in higher education than vocational high schoolers. However, both groups increase their higher education enrollment over each successive cohort. On the other hand, indigenous students tend to concentrate in vocational higher education programs, while non-indigenous students more often choose academic programs.

The cross-sectional descriptive analysis of higher education from 2009 to 2019 provides context for the cohort analysis. During this period, enrollment in higher education slowly grows.

However, while enrollment in academic programs keeps an upward trend, enrollment in vocational programs steadily increases until 2015 and, after that year, slightly decreases.

In contrast, the comparison of regression outcomes for each cohort suggests that demographic characteristics, i.e., indigenous status and gender, have consistent effects across cohorts. Before including school SES in the models, indigenous students are less likely to enroll in higher education and more likely to enroll in vocational programs than non-indigenous students. However, incorporating school SES renders this association nonsignificant. On the other hand, women are slightly less likely than men to enroll in higher education, and they are less likely to enroll in vocational programs.

The most exciting finding from the coefficients' comparison is that school characteristics tend to lose salience for each successive cohort. This decline is not to say that school characteristics become irrelevant; on the contrary, low school SES, rurality, and state administration are associated with lower chances of enrolling in higher education and higher chances of choosing a vocational program. However, for each successive cohort, the size of these coefficients decreases.

Finally, predicted probabilities illustrate chances of enrolling in higher education in each cohort for students of mid-SES, public urban schools. This comparison suggests that the gap between vocational and academic high school graduates might be shrinking because vocational high schoolers of each successive cohort have a more significant probability of enrolling in higher education. In contrast, academic high schoolers' probabilities increase and then decrease. In addition, the predicted probabilities of enrolling in a vocational higher education program are similar for the 2009 and the 2010 cohorts, while they decrease for the 2011 and 2012 cohorts. This pattern is present for both the indigenous and the non-indigenous subsamples, as well as for vocational and academic high school graduates.

CHAPTER 7: CONCLUSIONS

This dissertation studies the educational trajectories of students in Chile, focusing particularly on how indigenous students differ from non-indigenous peers. The data analyzed starts at the time students are finishing middle school. As the literature shows, for most students, this transition brings about a decision regarding a change of school. About this decision, scholars like Raczynski et al. (2011) coincide with critics to the Mare model in that decisions about the school progression are not made on a year-by-year basis. On the contrary, students and their families often choose a high school based on their higher education expectations (or the lack of them).

Descriptive analyses show that fewer students choose vocational compared to academic high schools, but their proportional enrollment increases along the process, because by the third year of high school, a fraction of students have switched from the academic to the vocational track. In contrast, more students in the academic track either repeat a grade, or drop out, or switch to vocational education. At the time cohorts are expected to graduate from high school, there are still more students in the academic track, although the gap is smaller. Scholars like Larrañaga et al. (2014) had also pointed out that vocational high school students had better retention rates than academic high schoolers. Given that indigenous students more often attend vocational high schools, this could be a protecting factor. Nevertheless, analyses also show that fewer students from vocational high schools enroll in higher education immediately after graduating, compared to academic high school graduates.

Chapter IV provides relevant insights about the transition into high school. In the first place, indigenous status' negative association with high school enrollment disappears when accounting for school characteristics, suggesting indigenous students' relatively lower access is mediated by the middle schools they attend. Also, gender has no impact on this transition. In contrast, rurality seems to be the factor more consistently harming students' chances of enrolling in secondary education, either indigenous or not. Other school characteristics, i.e., school SES

and state administration, lose significant when other variables are incorporated in the models. Moreover, school SES and state administration are less impactful for indigenous students.

Nevertheless, while school characteristics have varying (and not always significant) impacts on the likelihood of making this transition, school SES, rurality, and state administration consistently increase the chance of enrolling in vocational instead of academic high schools. Demographic characteristics also have a strong association with high school track because indigenous students, as well as male students, are more likely to enroll in vocational high schools regardless of model specifications.

Understanding group differences in the choice for a high school track is important because enrolling in a vocational or an academic high school is a pivotal decision for students and their families. Although our analyses do not permit causal claims, data for four different cohorts coincide in that graduating from a vocational or an academic high school is associated with different probabilities of enrolling in higher education, as well as with the field of study and the type of program in which students enroll. This finding is particularly meaningful for understanding indigenous educational trajectories, given that indigenous students tend to concentrate in vocational high schools.

Concerning horizontal stratification at the higher education level, gender and type of high school education seem to be the more consistent predictors of type of program. Indeed, male students and vocational high school graduates are more likely to enroll in vocational programs, regardless of other characteristics. In addition, low school SES, rurality, and state administration are somewhat associated with vocational higher education enrollment. However, these indicators show significant variations across subpopulations. One consistent finding is that school SES and administration seem to be less salient for indigenous students; on the other hand, this group is more affected by rurality.

Regional differences also provide crucial insights for examining variations in educational trajectories. Specifically, the comparison of the northern and southern macro-regions, areas with significant proportions of indigenous populations, makes evident the heterogeneity behind the

indigenous category. For instance, in the northern regions, students are less affected by school SES in their vertical and horizontal transitions. Also, indigenous students in the north are no different from non-indigenous peers in their chances to attend secondary and tertiary education, nor in their likelihood of choosing vocational higher education. In contrast, in the southern regions, indigenous students are more likely to enroll in vocational high schools, and are less likely to attend higher education. As stated in chapter IV, these differences suggest that educational opportunities are not the same for all indigenous groups.

The distribution of different groups across fields of study in higher education presented in chapter V provides exciting insights for the understanding of how gender, indigenous status, and school trajectories relate to higher education experiences. In the first place, this characterization suggests that, in Chile, the fields of higher education with the largest enrollment have very distinct socio-demographic profiles. On the one hand, Engineering, Industry, and Construction programs more commonly enroll men and vocational high school graduates. On the other hand, Health and Social Services programs enroll more women, and more students from academic high schools.

Moreover, the overall distribution of higher education students across fields follows the general patterns identified in chapter IV. Specifically, vocational high school graduates often enroll in vocational higher education programs. Moreover, and coinciding with the international literature, women are generally underrepresented in Engineering programs, and overrepresented in Health programs. Nevertheless, the intersection of gender and type of higher education program illustrate relevant differences; for instance, the few women in Engineering tend to concentrate in academic programs, while in Social Sciences and Health, women are found in vocational programs in higher numbers.

The comparison of the predicted probabilities of enrolling in each field and type of program further highlights the importance of an intersectional approach to higher education trajectories. In particular, women who graduated from academic high schools have a much more uneven distribution across fields than vocational high school female graduates. On the contrary,

among men, vocational high school graduates are the ones who diverge the most in the probability of enrolling in each field.

Although indigenous status seems to be less relevant than gender and high school type for the distribution across fields of study, the inclusion of indigenous status reveals some specific but interesting results. In particular, among vocational high school *female* graduates, indigenous students are more likely to enroll in vocational Engineering programs, compared to non-indigenous peers. This finding contrasts the overall pattern that describes that few women enroll in Engineering, and even fewer do so in vocational Engineering programs. Additionally, among vocational high school graduates who are indigenous have similar probabilities of enrolling in vocational or academic Health programs. In contrast, non-indigenous vocational high school graduates are more likely to enroll in vocational Health programs.

A third and last empirical chapter compared the focal 2012 cohort to the three previous ones. This exercise is not simply a supplemental analysis or a robustness check. On the contrary, the analysis of the four selected cohorts is in itself critically relevant, because these students' access to higher education happened in a time of drastic changes. It is still too soon to know the extent of the consequences of the free-for-all higher education reform, but the comparison of the transition into higher education of students who completed high school in 2014, 2015, 2016, and 2017 should illuminate some clues.

On the one hand, comparing these cohorts show that they are not too different from each other. Indeed, the trajectories of indigenous and non-indigenous students, as well as their vertical and horizontal stratification, are pretty similar across cohorts. This gives us reason to think that the patterns uncovered for the 2012 cohort are no anomaly. On the other hand, each younger cohort shows slightly better numbers in terms of the achievement of all groups, including indigenous students and vocational high school graduates.

Furthermore, despite similarities across cohorts, there are specific indicators that might be suggesting that something changed between 2015 and 2018. In the first place, although school characteristics clearly affect higher education enrollment and choice of program, the

detrimental impact of low school SES, rurality, and state administration is smaller from cohort to cohort. Secondly, predicted probabilities reveal that, regarding higher education enrollment, the gap between vocational and academic high school graduates is smaller for each successive cohort. This reduction seems to be associated to the fact that vocational high schoolers' probability of enrolling in higher education increases for each cohort, but not for academic high schoolers. Thirdly, the predicted probabilities of enrolling in vocational higher education programs are fairly similar for students in the 2009 and 2010 cohorts; however, these probabilities clearly decline for the 2011 and 2012 cohorts.

These findings are informative in that they provide a comprehensive characterization of educational trajectories in Chile. Nevertheless, these results do not constitute prove of causal relationships between policy changes and shifts in enrollment. Although a cohort comparison strengthens findings from the first empirical chapter, these analyses do not rule out alternative explanations to differences between cohorts.

In addition, analyses of higher education enrollment are restricted to students who completed their schooling process in the expected time and transitioned into higher education the following year. This methodological choice responds to the decision of incorporating students' trajectories in the analyses, taking into account their middle school and high school experiences. However, this decision brings about the cost of restricting our assessments to a very specific subset of higher education students. Data limitations do not permit a thorough analysis of how special this subsample is, but it is possible to speculate that high-achieving students from well-off families are overrepresented.

A crucial limitation for further scrutinizing changes in higher education access, within the scope of this dissertation, is that higher education databases do not include indigenous status. Therefore, this indicator needs to be obtained from school datasets. However, because many students do not enroll in higher education immediately after graduating from high school, and because many students change programs or leave higher education to return in a different year, matching all higher education students with their school records is a challenging task.

Another restriction to this study is the fact that the small proportion of indigenous students across the school and higher education systems only permits certain aggregation levels. For instance, regional variations found in chapter IV should be further explored by delving into the communal level, especially in the southern regions. This would allow for a better understanding of the extent of the Mapuche disadvantage, and for a comparison with other indigenous groups. However, small sample sizes limit the possibility of furthering these analyses.

In any case, this dissertation introduces new questions and hypotheses that open a path for new research projects. Firstly, to what extent do regional differences relate to the distribution of educational institutions across territories? How determinant are geographic conditions for the trajectories of students from different backgrounds (i.e., indigenous versus non-indigenous, wealthy versus resource-deprived families)? Moreover, what other elements interact with indigenous status and gender in shaping educational trajectories? To what extent does school performance explain choices for vocational and academic higher education programs? And more importantly, to what extent does performance in standardized tests in middle school affects students' choice for an academic or a vocational high school? Do these tests affect students' expectations? Are there differences between indigenous and non-indigenous students in how their expectations are shaped?

In relation to educational policy changes and their impact on indigenous students' trajectories, many questions remain unanswered. Not only the free-of-charge higher education program requires further assessment from the viewpoint of its impact on indigenous enrollment. Other prominent policy reforms, such as the end of school selection, and the "Bicentenario" high schools' program, should be assessed taking into account whether they have improved the educational experiences of indigenous peoples.

From a substantive point of view, this dissertation aims to make a contribution to the literature by providing evidence that helps connect two often separate areas of research: indigenous education, and educational stratification. The educational stratification literature has made tremendous contributions to the understanding of educational inequalities, particularly by

means of performing comparative analyses, over time and between countries. Nevertheless, indigenous status has seldom played a part in these analyses; partly because of data limitations, partly because often studying indigenous populations is only seen as relevant for their local contexts.

On the other hand, studies of indigenous experiences in relation to the schooling process have produced critical insights for the development of pertinent curricula, for instance highlighting the importance of intercultural education. Nevertheless, these studies often stay disconnected from the educational stratification literature. Critical questions in the education literature, such as the extent to which schools can be equalizers, or whether schools or families play a more determinant role in overcoming (or maintaining) inequality, are too often addressed without the input of indigenous experiences.

APPENDIX

Tables and illustrations for Chapter 1: Introduction

Figure 2: High schools per 100 youth (age 13 to 15)

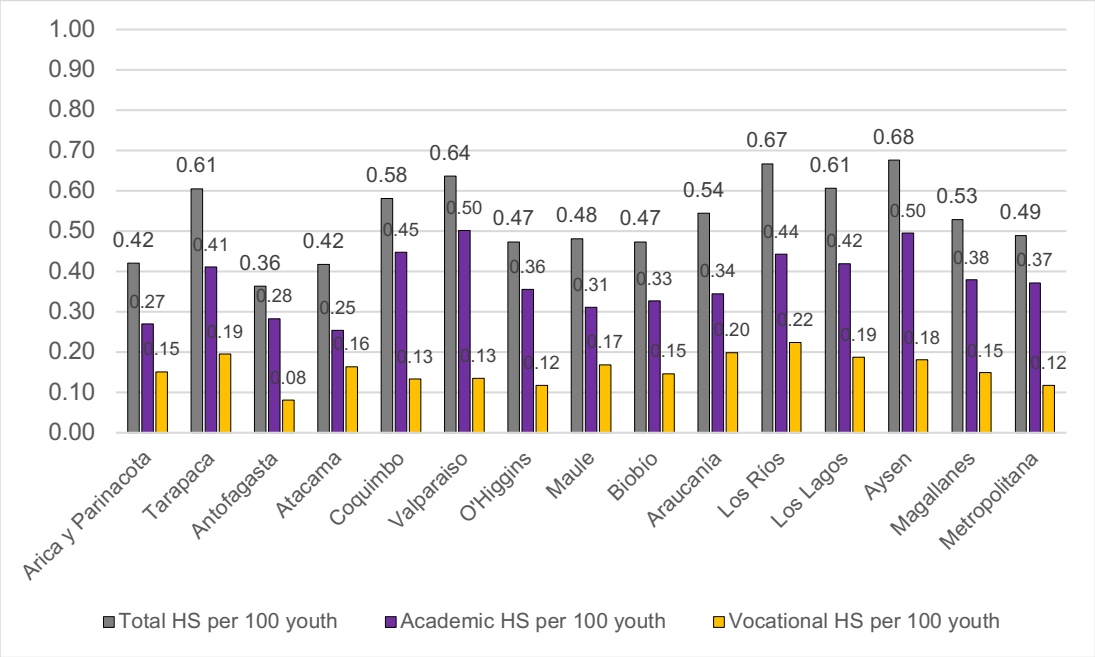


Table 1: Distribution of high schools across regions (MINEDUC data) in relation to population at age of starting high school (2017 census)

	Youth (13-15 years old)				High school institutions							Institutions per youth		
	Indig.	Non-indig.	Total	% indig.	Total nº of HS	% Aca	% Voc	% Urban aca	% Rural aca	% Urban voc	% Rural voca	Schools per 100 youth	Aca. schools per 100 youth	Voc. schools per 100 youth
Arica y Parinacota	3,919	5,352	9,271	42%	39	64%	36%	64%	0%	26%	10%	0.42	0.27	0.15
Tarapacá	4,111	9,770	13,881	30%	84	68%	32%	61%	7%	25%	7%	0.61	0.41	0.19
Antofagasta	3,862	19,804	23,666	16%	86	78%	22%	77%	1%	21%	1%	0.36	0.28	0.08
Atacama	3,048	9,174	12,222	25%	51	61%	39%	59%	2%	37%	2%	0.42	0.25	0.16
Coquimbo	3,071	27,718	30,789	10%	179	77%	23%	75%	2%	21%	2%	0.58	0.45	0.13
Valparaíso	4,642	63,122	67,764	7%	431	79%	21%	78%	1%	21%	0%	0.64	0.50	0.13
O'Higgins	2,480	34,926	37,406	7%	177	75%	25%	73%	2%	21%	3%	0.47	0.36	0.12
Maule	2,153	39,262	41,415	5%	199	65%	35%	59%	6%	30%	6%	0.48	0.31	0.17
Biobío	8,688	73,160	81,848	11%	387	69%	31%	64%	5%	28%	3%	0.47	0.33	0.15
Araucanía	15,618	24,097	39,715	39%	216	63%	37%	56%	7%	30%	6%	0.54	0.34	0.20
Los Ríos	4,755	10,843	15,598	30%	104	66%	34%	60%	7%	22%	12%	0.67	0.44	0.22
Los Lagos	12,210	22,625	34,835	35%	211	69%	31%	62%	7%	26%	5%	0.61	0.42	0.19
Aysén	1,571	2,867	4,438	35%	30	73%	27%	63%	10%	27%	0%	0.68	0.50	0.18
Magallanes	1,866	4,196	6,062	31%	32	72%	28%	72%	0%	28%	0%	0.53	0.38	0.15
Metropolitana	26,987	235,595	262,582	10%	1,283	76%	24%	74%	2%	23%	1%	0.49	0.37	0.12

Table 2: School enrollment in Chile by education level and type of curriculum

	2012	2013	2014	2015	2016	2017	2018	2019
Primary	1,962,254	1,944,639	1,939,926	1,937,419	1,945,991	1,962,422	1,988,777	2,014,806
Secondary	938,936	924,905	909,674	905,253	898,196	896,642	896,755	897,736
Total	2,901,190	2,869,544	2,849,600	2,842,672	2,844,187	2,859,064	2,885,532	2,912,542
Secondary Academic	614,340	615,514	613,078	619,942	623,385	628,783	640,067	653,256
Secondary Vocational	324,596	309,391	296,596	285,311	274,811	267,859	256,688	244,480
% secondary vocational	34.6%	33.5%	32.6%	31.5%	30.6%	29.9%	28.6%	27.2%

Table 3: Higher education enrollment by type of institution (frequencies)

	2012	2013	2014	2015	2016	2017	2018	2019
Tech. Tr. Center	139,962	144,365	148,010	146,540	146,540	136,777	136,730	137,940
Prof. Institute	293,519	324,579	351,004	373,171	373,171	374,709	373,104	379,456
University	628,902	645,262	645,308	646,195	646,195	665,691	678,039	676,914
Total	1,062,383	1,114,206	1,144,322	1,165,906	1,165,906	1,177,177	1,187,873	1,194,310

Table 4:Higher education enrollment by type of institution (percentages)

	2012	2013	2014	2015	2016	2017	2018	2019
Tech. Tr. Center	13%	13%	13%	13%	13%	12%	12%	12%
Prof. Institute	28%	29%	31%	32%	32%	32%	31%	32%
University	59%	58%	56%	55%	55%	57%	57%	57%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Table 5: Non-Indigenous and Indigenous students enrolled in primary and secondary education

	2012		2013		2014		2015	
	Not Indig.	Indig.	Not Indig.	Indig.	Not Indig.	Indig.	Not Indig.	Indig-
Primary	1,861,204	101,050	1,839,422	105,217	1,827,332	112,594	1,821,895	115,524
	94.9%	5.1%	94.6%	5.4%	94.2%	5.8%	94.0%	6.0%
Secondary	893,091	45,845	875,210	49,695	858,354	51,320	852,416	52,837
	95.1%	4.9%	94.6%	5.4%	94.4%	5.6%	94.2%	5.8%
Total	2,754,295	146,895	2,714,632	154,912	2,685,686	163,914	2,674,311	168,361
	94.9%	5.1%	94.6%	5.4%	94.2%	5.8%	94.1%	5.9%

	2016		2017		2018		2019	
	Not Indig.	Indig.	Not Indig.	Indig.	Not Indig.	Indig.	Not Indig.	Indig.
Primary	1,821,350	124,641	1,835,131	127,291	1,856,673	132,104	1,878,804	136,002
	93.6%	6.4%	93.5%	6.5%	93.4%	6.6%	93.2%	6.8%
Secondary	842,849	55,347	840,449	56,193	839,840	56,915	840,611	57,125
	93.8%	6.2%	93.7%	6.3%	93.7%	6.3%	93.6%	6.4%
Total	2,664,199	179,988	2,675,580	183,484	2,696,513	189,019	2,719,415	193,127
	93.7%	6.3%	93.6%	6.4%	93.4%	6.6%	93.4%	6.6%

Table 6: Non-indigenous and Indigenous students in secondary education by type of curriculum

	2012		2013		2014		2015	
	Not Indig.	Indig.	Not Indig.	Indig.	Not Indig.	Indig.	Not Indig.	Indig.
Secondary Academic	592,132	22,208	591,267	24,247	587,769	25,309	593,335	26,607
	66.3%	48.4%	67.6%	48.8%	68.5%	49.3%	69.6%	50.4%
Secondary Vocational	300,959	23,637	283,943	25,448	270,585	26,011	259,081	26,230
	33.7%	51.6%	32.4%	51.2%	31.5%	50.7%	30.4%	49.6%

	2016		2017		2018		2019	
	Not Indig.	Indig.	Not Indig.	Indig.	Not Indig.	Indig.	Not Indig.	Indig.
Secondary Academic	594,911	28,474	599,173	29,610	609,138	30,929	621,692	31,564
	70.6%	51.4%	71.3%	52.7%	72.5%	54.3%	74.0%	55.3%
Secondary Vocational	247,938	26,873	241,276	26,583	230,702	25,986	218,919	25,561
	29.4%	48.6%	28.7%	47.3%	27.5%	45.7%	26.0%	44.7%

Table 7: Gender ratio among non-indigenous and indigenous students

		2012	2013	2014	2015	2016	2017	2018	2019
Not Indigenous	Male	1,397,051	1,377,756	1,363,517	1,357,665	1,352,326	1,359,493	1,371,856	1,385,617
	Female	1,357,244	1,336,876	1,322,168	1,316,645	1,311,871	1,316,085	1,324,655	1,333,796
	Ratio	1.03	1.03	1.03	1.03	1.03	1.03	1.04	1.04
Indigenous	Male	74,437	78,641	83,084	85,417	91,649	93,374	96,068	98,150
	Female	72,458	76,271	80,830	82,944	88,339	90,109	92,951	94,976
	Ratio	1.03	1.03	1.03	1.03	1.04	1.04	1.03	1.03

Table 8: Non-indigenous and Indigenous students by rurality

		2012	2013	2014	2015	2016	2017	2018	2019
Not Indigenous	Urban	2,538,153	2,511,329	2,496,375	2,488,452	2,480,442	2,490,446	2,510,503	2,532,089
	Rural	216,142	203,303	189,311	185,859	183,757	185,134	186,010	187,326
	Ratio	11.74	12.35	13.19	13.39	13.50	13.45	13.50	13.52
Indigenous	Urban	106,829	114,078	122,196	126,510	136,938	140,194	144,902	148,820
	Rural	40,066	40,834	41,718	41,851	43,050	43,290	44,117	44,307
	Ratio	2.67	2.79	2.93	3.02	3.18	3.24	3.28	3.36

Tables and illustrations for Chapter 3: Data and methods

Table 9: Students in the sample, year by year (frequencies)

	2012	2013	2014	2015	2016	2017	2018	2019
Dropout (cumulative)		4,410	11,152	21,125	34,759	50,182	121,608	105,206
7° grade	245,973	13,598	1,723	148	11	0	0	0
8° grade	-	227,965	16,867	2,413	176	9	5	0
1° HS	-	-	216,231	35,546	6,118	345	14	0
2° HS	-	-	-	186,741	33,021	5,833	352	19
3° HS	-	-	-	-	171,888	29,258	3,984	300
4° HS	-	-	-	-	-	160,346	24,723	3,352
1° Higher Ed	-	-	-	-	-	-	95,287	77,270
2° Higher Ed	-	-	-	-	-	-	-	59,826

Table 10: Students in the sample, year by year (percentages)

	2012	2013	2014	2015	2016	2017	2018	2019
Dropout (cumulative)		1.8%	4.5%	8.6%	14.1%	20.4%	49.4%	42.8%
7° grade	100%	5.5%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%
8° grade	-	92.7%	6.9%	1.0%	0.1%	0.0%	0.0%	0.0%
1° HS	-	-	87.9%	14.5%	2.5%	0.1%	0.0%	0.0%
2° HS	-	-	-	75.9%	13.4%	2.4%	0.1%	0.0%
3° HS	-	-	-	-	69.9%	11.9%	1.6%	0.1%
4° HS	-	-	-	-	-	65.2%	10.1%	1.4%
1° Higher Ed	-	-	-	-	-	-	38.7%	31.4%
2° Higher Ed	-	-	-	-	-	-		24.3%

Table 11: Students in the sample, year by year, summarized (frequencies)

	2012 (7° grade)	2013 (8° grade)	2014 (1° HS)	2015 (2°HS)	2016 (3°HS)	2017 (4°HS)	2018 (1°HigherEd)	2019 (2° HigherEd)
Dropout (cumulative)		4,410	11,152	21,125	34,759	50,182	121,608	105,206
Delayed		13,598	18,590	38,107	39,326	35,445	29,078	80,941
Expected	245,973	227,965	216,231	186,741	171,888	160,346	95,287	59,826

Table 12: Students in the sample, year by year, summarized (percentages)

	2012 (7° grade)	2013 (8° grade)	2014 (1° HS)	2015 (2°HS)	2016 (3°HS)	2017 (4°HS)	2018 (1°HigherEd)	2019 (2° HigherEd)
Dropout (cumulative)		1.8%	4.5%	8.6%	14.1%	20.4%	49.4%	42.8%
Delayed		5.5%	7.6%	15.5%	16.0%	14.4%	11.8%	32.9%
Expected	100%	92.7%	87.9%	75.9%	69.9%	65.2%	38.7%	24.3%

Table 13: Indigenous and non-indigenous students in the sample, across years (frequencies)

	2012		2013		2014		2015	
	Not indig.	Indig.	Not indig.	Indig.	Not indig.	Indig.	Not indig.	Indig.
Dropout (cumulative)	-		4,116	294	10,343	809	19,592	1,533
7° grade	232,638	13,335	12,812	786	1,629	94	133	15
8° grade	-	-	215,710	12,255	15,919	948	2,280	133
1° HS	-	-	-	-	204,747	11,484	33,407	2,139
2° HS	-	-	-	-	-	-	177,226	9,515
3° HS	-	-	-	-	-	-	-	-
4° HS	-	-	-	-	-	-	-	-
1° Higher Ed	-	-	-	-	-	-	-	-
2° Higher Ed	-	-	-	-	-	-	-	-

	2016		2017		2018		2019	
	Not indig.	Indig.	Not indig.	Indig.	Not indig.	Indig.	Not indig.	Indig.
Dropout	32,334	2,425	46,828	3,354	114,052	7,556	97,666	7,540
7° grade	8	3	0	0	0	0	0	0
8° grade	164	12	8	1	4	1	0	0
1° HS	5,732	386	322	23	14	0	0	0
2° HS	31,103	1,918	5,466	367	315	37	15	4
3° HS	163,297	8,591	27,551	1,707	3,725	259	277	23
4° HS	-	-	152,463	7,883	23,308	1,415	3,120	232
1° Higher Ed	-	-	-	-	91,220	4,067	74,053	3,217
2° Higher Ed	-	-	-	-			57,507	2,319

Table 14: Indigenous and non-indigenous students in the sample, across years (percentages)

	2012		2013		2014		2015	
	Not indig.	Indig.	Not indig.	Indig.	Not indig.	Indig.	Not indig.	Indig.
Dropout (cumulative)		-	1.8%	2.2%	4.4%	6.1%	8.4%	11.5%
7° grade	100%	100%	5.5%	5.9%	0.7%	0.7%	0.1%	0.1%
8° grade	-	-	92.7%	91.9%	6.8%	7.1%	1.0%	1.0%
1° HS	-	-	-	-	88.0%	86.1%	14.4%	16.0%
2° HS	-	-	-	-	-	-	76.2%	71.4%
3° HS	-	-	-	-	-	-	-	-
4° HS	-	-	-	-	-	-	-	-
1° Higher Ed	-	-	-	-	-	-	-	-
2° Higher Ed	-	-	-	-	-	-	-	-

	2016		2017		2018		2019	
	Not indig.	Indig.	Not indig.	Indig.	Not indig.	Indig.	Not indig.	Indig.
Dropout (cumulative)	13.9%	18.2%	20.1%	25.2%	49.0%	56.7%	42.0%	56.5%
7° grade	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
8° grade	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1° HS	2.5%	2.9%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%
2° HS	13.4%	14.4%	2.3%	2.8%	0.1%	0.3%	0.0%	0.0%
3° HS	70.2%	64.4%	11.8%	12.8%	1.6%	1.9%	0.1%	0.2%
4° HS	-	-	65.5%	59.1%	10.0%	10.6%	1.3%	1.7%
1° Higher Ed	-	-	-	-	39.2%	30.5%	31.8%	24.1%
2° Higher Ed	-	-	-	-	-	-	24.7%	17.4%

Table 15: Indigenous and non-indigenous students in the sample, summarized (frequencies)

	2012 (7° grade)		2013 (8° grade)		2014 (1° HS)		2015 (2° HS)	
	Not Indig.	Indig.	Not Indig.	Indig.	Not Indig.	Indig.	Not Indig.	Indig.
Dropout (cumulative)			4,272	300	34,790	3,479	47,345	4,515
Delayed			12,812	786	17,548	1,042	35,820	2,287
Expected	232,638	13,335	215,710	12,255	204,747	11,484	177,226	9,515

	2016 (3° HS)		2017 (4° HS)		2018 (1° HigherEd)		2019 (2° HigherEd)	
	Not Indig.	Indig.	Not Indig.	Indig.	Not Indig.	Indig.	Not Indig.	Indig.
Dropout	77,407	6,842	92,143	7,704	118,419	7,992	94,253	7,194
Delayed	37,007	2,319	33,347	2,098	27,366	1,712	77,465	3,476
Expected	163,297	8,591	152,463	7,883	91,220	4,067	57,507	2,319

Table 16: Indigenous and non-indigenous students in the sample, summarized (percentages)

	2012 (7° grade)		2013 (8° grade)		2014 (1° HS)		2015 (2° HS)	
	Not Indig.	Indig.	Not Indig.	Indig.	Not Indig.	Indig.	Not Indig.	Indig.
Dropout (cumulative)			1.8%	2.2%	15.0%	26.1%	20.4%	33.9%
Delayed			5.5%	5.9%	7.5%	7.8%	15.4%	17.2%
Expected	100%	100%	92.7%	91.9%	88.0%	86.1%	76.2%	71.4%

	2016 (3° HS)		2017 (4° HS)		2018 (1° HigherEd)		2019 (2° HigherEd)	
	Not Indig.	Indig.	Not Indig.	Indig.	Not Indig.	Indig.	Not Indig.	Indig.
Dropout	33.3%	51.3%	39.6%	57.8%	50.9%	59.9%	40.5%	53.9%
Delayed	15.9%	17.4%	14.3%	15.7%	11.8%	12.8%	33.3%	26.1%
Expected	70.2%	64.4%	65.5%	59.1%	39.2%	30.5%	24.7%	17.4%

Tables and illustrations for Chapter 4: From middle school to high school, and from high school to higher education

Figure 3: Analytic plan for chapter IV

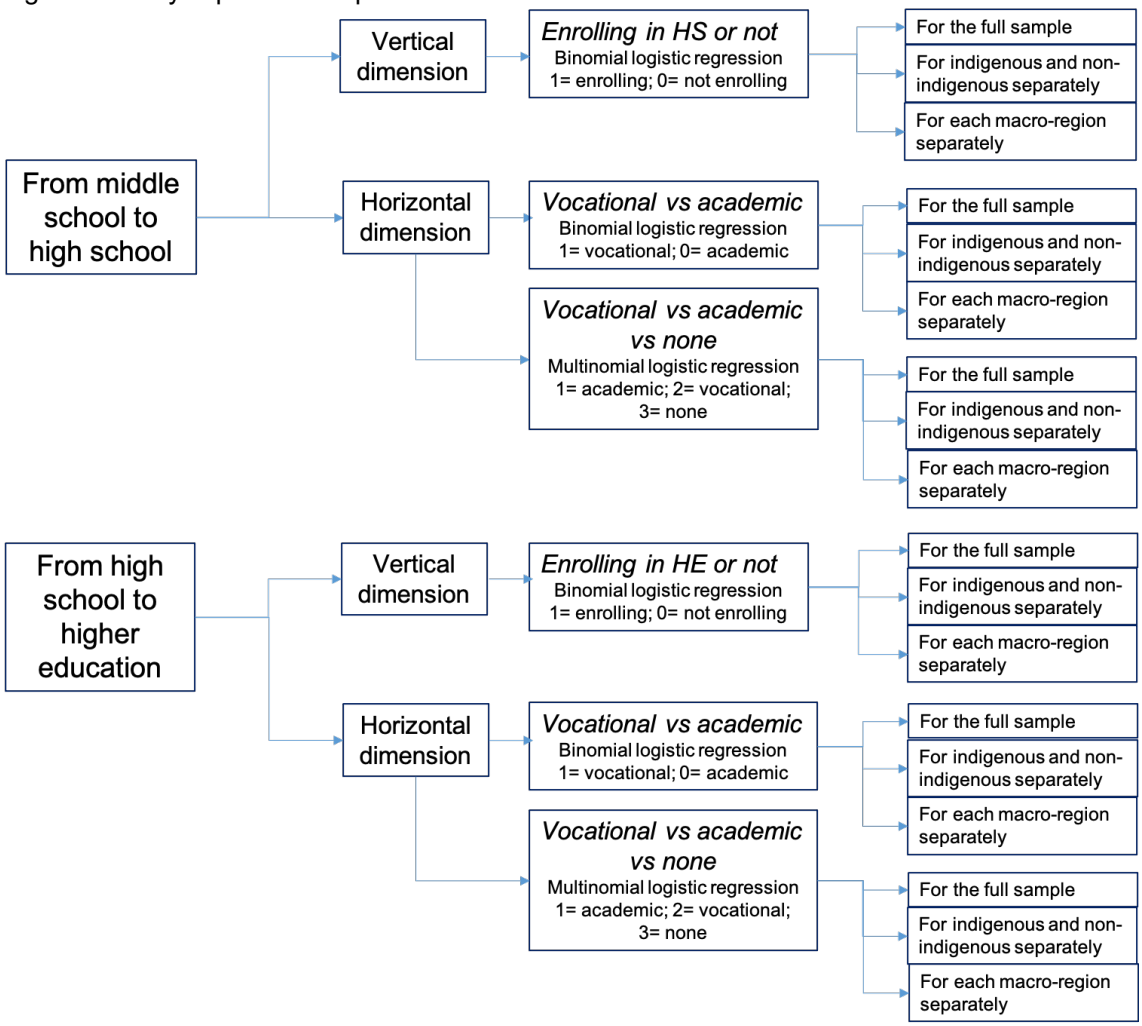


Figure 4: Educational trajectories of 2012 seventh-graders, through first year of high school (2014) into higher education (2018)

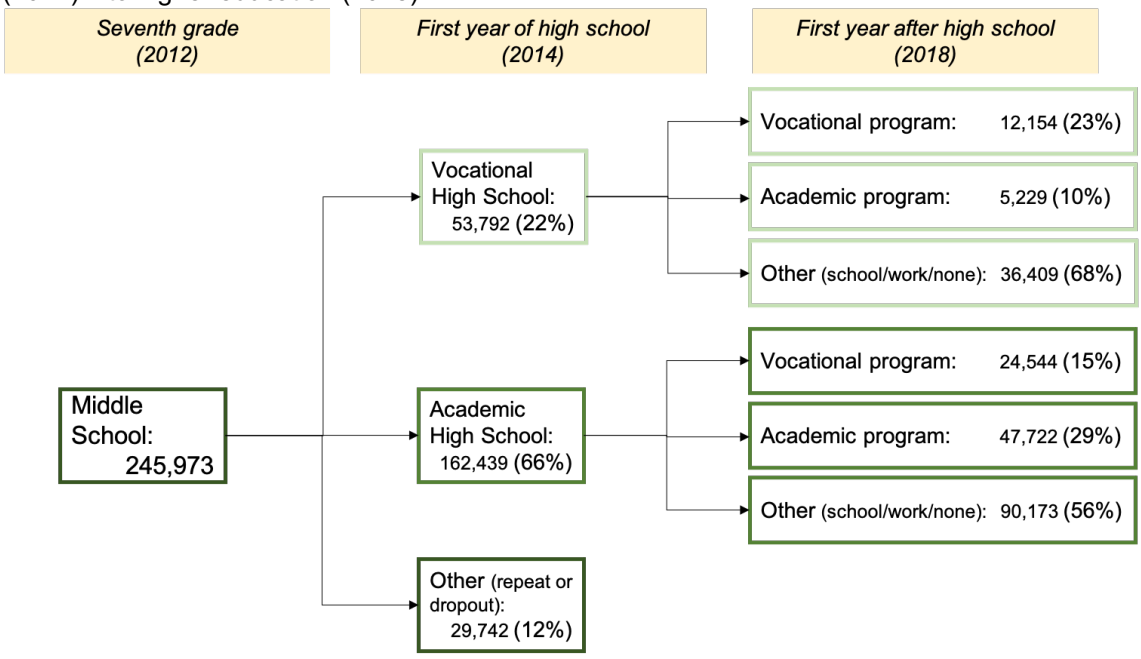


Figure 5: Educational trajectories of 2012 seventh-graders, through third year of high school (2016) into higher education (2018)

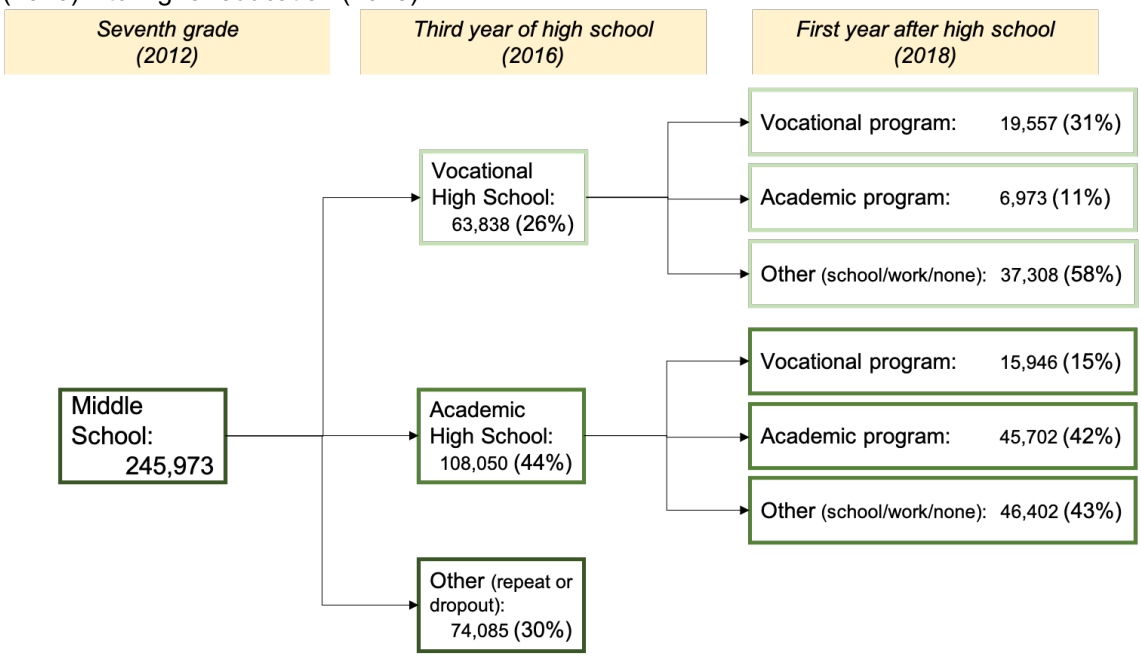


Figure 6: Educational trajectories of 2012 indigenous and non-indigenous seventh-graders, through first year of high school (2014) into higher education (2018)

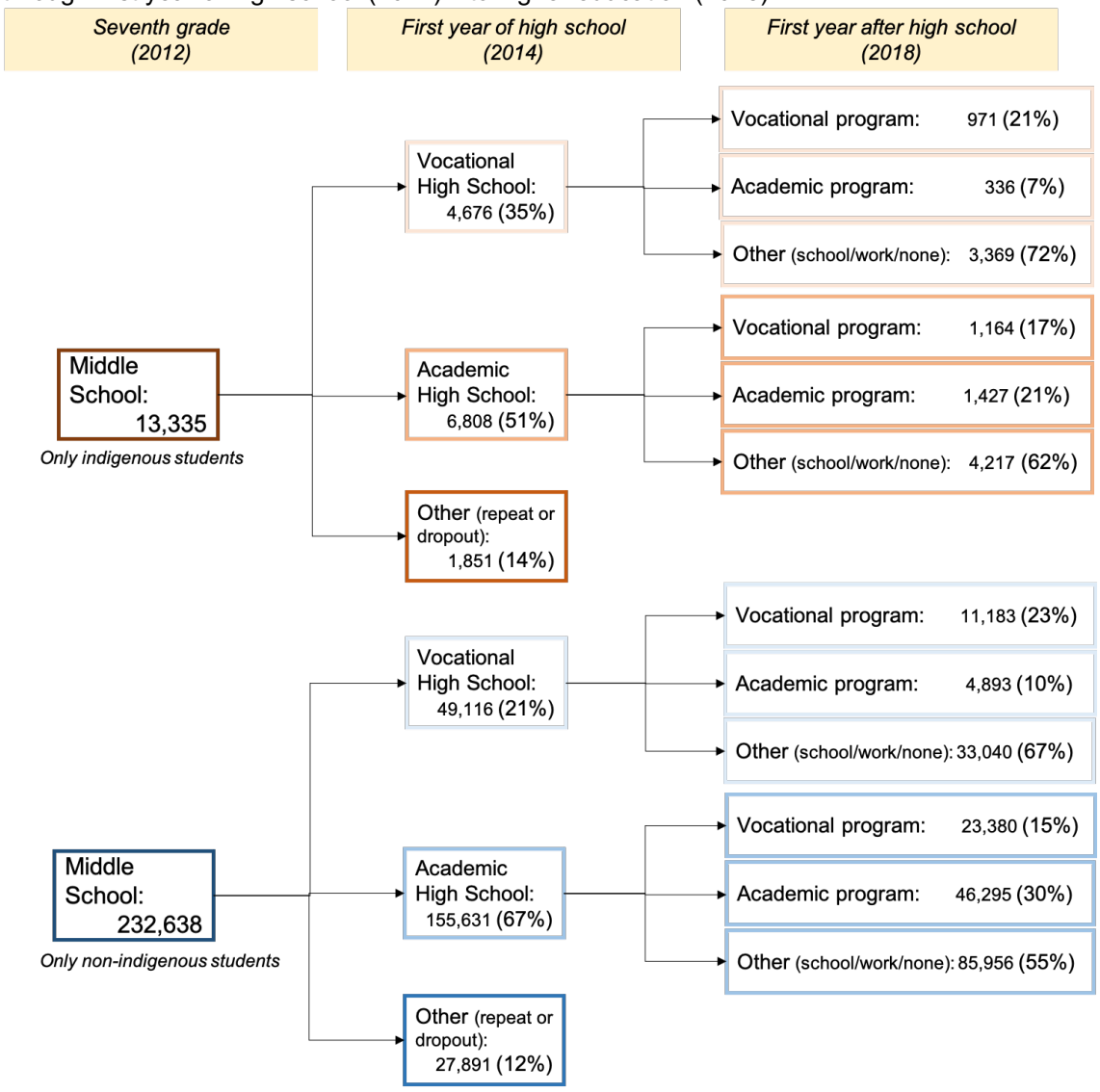


Figure 7: educational trajectories of 2012 indigenous and non-indigenous seventh-graders, through third year of high school (2016) into higher education (2018)

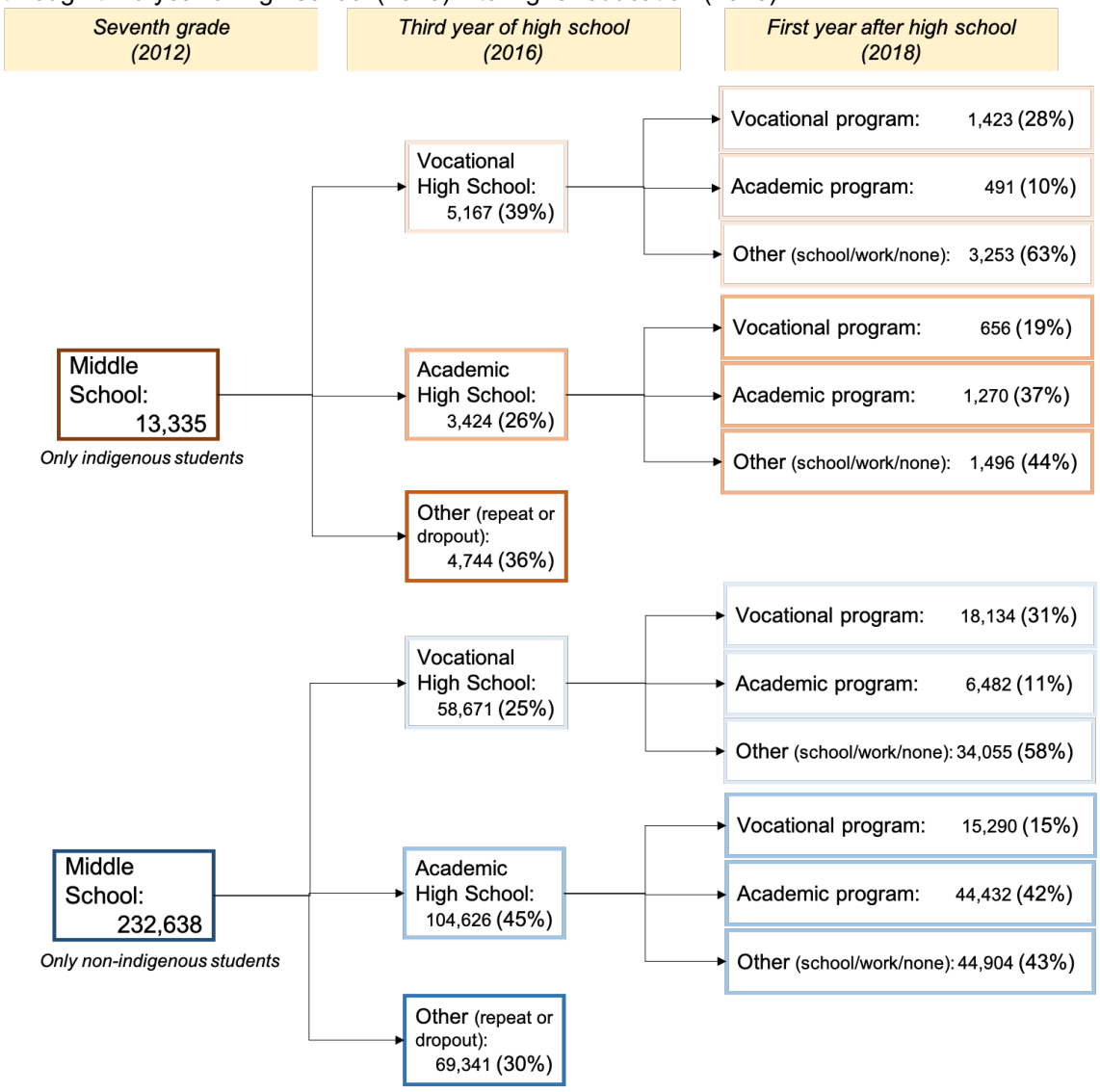


Table 17: Log-odds of enrolling in high school (2014) over not enrolling

	(0) Empty Model	(1) Only Indig. Status	(2) Demog.	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Dem + Loc + Admin	(9) Dem + Loc + Admin + SES	(10) Full Model
Indigenous		-0.419***	-0.024	-0.289***	-0.287***	0.109*	-0.331***	-0.020	-0.015	0.094	0.047
		(0.060)	(0.074)	(0.063)	(0.060)	(0.060)	(0.060)	(0.076)	(0.075)	(0.075)	(0.074)
Rural school '13				-0.606***				-0.209***	-0.141**	-0.030	-0.167***
				(0.052)				(0.058)	(0.058)	(0.058)	(0.058)
Northern region '13				-0.122				-0.141*	-0.056	-0.097	-0.139*
				(0.088)				(0.082)	(0.079)	(0.081)	(0.081)
Central region '13				0.030				0.217***	0.295***	0.381***	0.304***
				(0.054)				(0.048)	(0.048)	(0.048)	(0.048)
Southern region '13				0.049				0.223***	0.263***	0.418***	0.331***
				(0.067)				(0.063)	(0.062)	(0.064)	(0.064)
Female			-0.023					-0.023	-0.024	-0.024	-0.022
			(0.034)					(0.034)	(0.034)	(0.034)	(0.034)
Age			-1.726***					-1.729***	-1.697***	-1.656***	-1.650***
			(0.018)					(0.018)	(0.019)	(0.018)	(0.018)
State admin '13					-0.949***				-0.406***	-0.217***	-0.165***
					(0.047)				(0.046)	(0.052)	(0.051)
School SES '13						-2.822***				-1.214***	-1.888***
						(0.104)				(0.126)	(0.141)
Communal HDI							0.921***				-2.180***
							(0.179)				(0.215)
Constant	3.751***	3.778***	26.178***	3.840***	4.294***	5.454***	3.312***	26.142***	25.898***	25.921***	27.382***
	(0.023)	(0.023)	(0.250)	(0.042)	(0.038)	(0.073)	(0.088)	(0.248)	(0.251)	(0.250)	(0.277)
Observations	221,102	221,102	221,102	221,102	221,102	221,102	221,102	221,102	221,102	221,102	221,102

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 18: Log-odds of enrolling in high school (2014) over not enrolling, for indigenous students

	(0) Empty Model	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demogr + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Rural school '13			-0.554***				-0.319**	-0.330**	-0.276*	-0.357**
			(0.129)				(0.149)	(0.149)	(0.158)	(0.162)
Northern region '13			0.149				0.178	0.214	0.197	0.161
			(0.234)				(0.287)	(0.290)	(0.288)	(0.284)
Central region '13			-0.025				0.339	0.374*	0.427*	0.383*
			(0.183)				(0.213)	(0.214)	(0.219)	(0.218)
Southern region '13			0.152				0.323*	0.335**	0.404**	0.310*
			(0.165)				(0.170)	(0.170)	(0.175)	(0.174)
Female		-0.081					-0.079	-0.078	-0.076	-0.076
		(0.128)					(0.128)	(0.128)	(0.128)	(0.128)
Age		-1.501***					-1.501***	-1.496***	-1.488***	-1.492***
		(0.054)					(0.054)	(0.054)	(0.054)	(0.054)
State admin '13				-0.350***				-0.176	-0.179	-0.172
				(0.123)				(0.136)	(0.136)	(0.136)
School SES '13					-1.989***				-0.542	-1.163**
					(0.349)				(0.436)	(0.467)
Communal HDI						0.634				-1.729***
						(0.442)				(0.609)
Constant	3.359***	23.077***	3.452***	3.577***	4.891***	3.098***	22.927***	22.971***	23.208***	24.547***
	(0.058)	(0.753)	(0.124)	(0.101)	(0.284)	(0.194)	(0.757)	(0.754)	(0.791)	(0.896)
Observations	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 19: Log-odds of enrolling in high school (2014) over not enrolling for non-indigenous students

	(0) Empty Model	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demogr + Location	(8) Demogr + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Rural school '13			-0.619***				-0.196***	-0.110*	-0.004	-0.146**
			(0.055)				(0.061)	(0.061)	(0.061)	(0.061)
Northern region '13			-0.145				-0.161*	-0.072	-0.114	-0.159*
			(0.090)				(0.082)	(0.080)	(0.082)	(0.081)
Central region '13			0.033				0.214***	0.294***	0.378***	0.300***
			(0.054)				(0.048)	(0.049)	(0.048)	(0.049)
Southern region '13			0.036				0.222***	0.267***	0.423***	0.344***
			(0.070)				(0.065)	(0.065)	(0.067)	(0.067)
Female		-0.018					-0.017	-0.019	-0.019	-0.017
		(0.035)					(0.035)	(0.035)	(0.035)	(0.035)
Age		-1.746***					-1.749***	-1.714***	-1.672***	-1.665***
		(0.019)					(0.019)	(0.020)	(0.019)	(0.019)
State admin '13				-0.995***				-0.422***	-0.216***	-0.160***
				(0.048)				(0.047)	(0.054)	(0.053)
School SES '13					-2.863***				-1.228***	-1.910***
					(0.106)				(0.130)	(0.145)
Communal HDI						0.949***				-2.207***
						(0.188)				(0.224)
Constant	3.778***	26.447***	3.844***	4.324***	5.481***	3.298***	26.419***	26.140***	26.142***	27.606***
	(0.023)	(0.259)	(0.042)	(0.039)	(0.074)	(0.092)	(0.258)	(0.262)	(0.260)	(0.286)
Observations	209,224	209,224	209,224	209,224	209,224	209,224	209,224	209,224	209,224	209,224

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 20: Log-odds of enrolling in high school (2014) over not enrolling for students in the northern regions

	(0) Empty Model	(1) Only Indig. Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demogr + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Indigenous		-0.238	0.062	-0.120	-0.113	0.096	-0.257	0.083	0.117	0.122	0.110
		(0.199)	(0.246)	(0.201)	(0.195)	(0.211)	(0.200)	(0.251)	(0.253)	(0.255)	(0.252)
Female			-0.051					-0.051	-0.084	-0.084	-0.075
			(0.102)					(0.102)	(0.102)	(0.102)	(0.102)
Age			-1.466***					-1.465***	-1.403***	-1.401***	-1.403***
			(0.057)					(0.058)	(0.060)	(0.059)	(0.060)
Rural school '13				-0.468**				-0.078	0.016	0.023	-0.330
				(0.234)				(0.325)	(0.323)	(0.325)	(0.320)
State admin '13					-1.339***				-0.842***	-0.834***	-0.754***
					(0.165)				(0.155)	(0.171)	(0.173)
School SES '13						-1.959***				-0.070	-0.700*
						(0.315)				(0.355)	(0.402)
Communal HDI							-0.357				-3.038***
							(0.740)				(0.830)
Constant	3.654***	3.672***	22.459***	3.691***	4.546***	4.660***	3.864***	22.449***	22.209***	22.214***	24.158***
	(0.077)	(0.080)	(0.786)	(0.082)	(0.145)	(0.199)	(0.391)	(0.789)	(0.781)	(0.783)	(1.010)
Observations	18,949	18,949	18,949	18,949	18,949	18,949	18,949	18,949	18,949	18,949	18,949

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 21: Log-odds of enrolling in high school (2014) over not enrolling for students in the central regions

	(0) Empty Model	(1) Only Indig. Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Indigenous		-0.552***	-0.011	-0.420***	-0.363***	-0.027	-0.521***	0.037	0.030	0.148	0.112
		(0.125)	(0.178)	(0.125)	(0.128)	(0.127)	(0.125)	(0.182)	(0.180)	(0.182)	(0.177)
Female			-0.025					-0.031	-0.029	-0.032	-0.025
			(0.056)					(0.057)	(0.057)	(0.057)	(0.057)
Age			-1.766***					-1.760***	-1.730***	-1.700***	-1.697***
			(0.027)					(0.027)	(0.027)	(0.028)	(0.028)
Rural school '13				-0.621***				-0.200**	-0.123	-0.038	-0.260***
				(0.070)				(0.079)	(0.081)	(0.081)	(0.081)
State admin '13					-1.110***				-0.338***	-0.107	-0.093
					(0.076)				(0.075)	(0.087)	(0.083)
School SES '13						-3.474***				-1.159***	-1.810***
						(0.166)				(0.214)	(0.231)
Communal HDI							0.494*				-2.913***
							(0.287)				(0.323)
Constant	3.755***	3.770***	26.836***	3.878***	4.475***	6.011***	3.536***	26.786***	26.600***	26.787***	28.583***
	(0.033)	(0.034)	(0.369)	(0.039)	(0.066)	(0.121)	(0.134)	(0.369)	(0.369)	(0.370)	(0.428)
Observations	83,908	83,908	83,908	83,908	83,908	83,908	83,908	83,908	83,908	83,908	83,908

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 22: Log-odds of enrolling in high school (2014) over not enrolling for students in the southern regions

	(0) Empty Model	(1) Only Indig. Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demogr + Location + Admin + SES	(10) Full Model
Indigenous		-0.406***	-0.071	-0.191*	-0.374***	-0.069	-0.330***	0.011	0.012	0.087	0.012
		(0.091)	(0.107)	(0.098)	(0.090)	(0.090)	(0.088)	(0.110)	(0.110)	(0.109)	(0.106)
Female			0.066					0.051	0.051	0.046	0.055
			(0.092)					(0.093)	(0.093)	(0.093)	(0.093)
Age			-1.718***					-1.703***	-1.700***	-1.675***	-1.673***
			(0.041)					(0.041)	(0.042)	(0.042)	(0.042)
Rural school '13				-0.797***				-0.397***	-0.400***	-0.284**	-0.369***
				(0.106)				(0.113)	(0.112)	(0.119)	(0.120)
State admin '13					-0.406***				-0.051	-0.000	0.015
					(0.104)				(0.103)	(0.105)	(0.104)
School SES '13						-2.589***				-0.866***	-1.433***
						(0.256)				(0.264)	(0.307)
Communal HDI							0.904**				-1.917***
							(0.395)				(0.477)
Constant	3.673***	3.765***	26.136***	3.925***	3.984***	5.578***	3.358***	26.033***	26.023***	26.235***	27.487***
	(0.052)	(0.057)	(0.569)	(0.066)	(0.086)	(0.201)	(0.177)	(0.569)	(0.570)	(0.576)	(0.664)
Observations	33,014	33,014	33,014	33,014	33,014	33,014	33,014	33,014	33,014	33,014	33,014

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 23: Log-odds of enrolling in high school (2014) over not enrolling for students in the metropolitan region

	(0) Empty Model	(1) Only Indig. Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Indigenous		-0.381***	-0.141	-0.384***	-0.205	0.064	-0.291**	-0.140	-0.078	0.066	0.056
		(0.126)	(0.143)	(0.126)	(0.127)	(0.125)	(0.127)	(0.143)	(0.142)	(0.138)	(0.137)
Female			-0.036					-0.036	-0.041	-0.039	-0.043
			(0.054)					(0.054)	(0.055)	(0.054)	(0.054)
Age			-1.785***					-1.786***	-1.742***	-1.676***	-1.666***
			(0.032)					(0.032)	(0.034)	(0.032)	(0.032)
Rural school '13				-0.291*				0.044	0.250*	0.326**	0.232
				(0.151)				(0.149)	(0.146)	(0.144)	(0.143)
State admin '13					-1.010***				-0.538***	-0.263***	-0.194**
					(0.083)				(0.075)	(0.088)	(0.084)
School SES '13						-3.540***				-1.562***	-2.167***
						(0.214)				(0.215)	(0.247)
Communal HDI							1.684***				-1.629***
							(0.360)				(0.407)
Constant	3.802***	3.815***	26.904***	3.826***	4.253***	5.702***	2.893***	26.908***	26.566***	26.396***	27.460***
	(0.041)	(0.042)	(0.446)	(0.044)	(0.060)	(0.135)	(0.193)	(0.446)	(0.457)	(0.443)	(0.458)
Observations	85,231	85,231	85,231	85,231	85,231	85,231	85,231	85,231	85,231	85,231	85,231

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 24: Log-odds of enrolling in a vocational high school over an academic high school (2014)

	(0) Empty Model	(1) Only Indig. Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Indigenous		0.776***	0.770***	0.528***	0.657***	0.097**	0.515***	0.524***	0.486***	0.129***	0.153***
		(0.037)	(0.037)	(0.036)	(0.040)	(0.038)	(0.037)	(0.036)	(0.037)	(0.036)	(0.036)
Rural school '13				0.785***				0.771***	0.510***	0.129**	0.213***
				(0.049)				(0.049)	(0.053)	(0.054)	(0.055)
Northern region '13				0.779***				0.795***	0.656***	0.795***	0.816***
				(0.093)				(0.092)	(0.089)	(0.093)	(0.095)
Central region '13				0.418***				0.423***	0.289***	0.056	0.110**
				(0.055)				(0.054)	(0.057)	(0.051)	(0.053)
Southern region '13				0.469***				0.473***	0.380***	-0.088	-0.027
				(0.066)				(0.065)	(0.066)	(0.066)	(0.067)
Female			-0.267***					-0.271***	-0.275***	-0.292***	-0.291***
			(0.022)					(0.021)	(0.024)	(0.021)	(0.021)
Age			0.202***					0.195***	0.131***	0.056***	0.046***
			(0.012)					(0.012)	(0.013)	(0.012)	(0.012)
State admin '13					1.036***				0.900***	0.312***	0.278***
					(0.047)				(0.049)	(0.050)	(0.051)
School SES '13						3.739***				3.523***	3.953***
						(0.108)				(0.122)	(0.135)
Communal HDI							-2.956***				1.435***
							(0.171)				(0.205)
Constant	-1.104***	-1.152***	-3.514***	-1.541***	-1.661***	-3.295***	0.329***	-3.822***	-3.359***	-3.985***	-4.846***
	(0.023)	(0.024)	(0.163)	(0.042)	(0.038)	(0.076)	(0.082)	(0.161)	(0.171)	(0.166)	(0.210)
Observations	216,026	216,026	216,026	216,026	216,026	216,026	216,026	216,026	216,026	216,026	216,026

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 25: Log-odds of enrolling in a vocational high school over an academic high school for indigenous students (2014)

	(0) Empty Model	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Rural school '13			0.711***				0.706***	0.707***	0.500***	0.541***
			(0.080)				(0.080)	(0.080)	(0.089)	(0.091)
Northern region '13			0.326**				0.322**	0.313**	0.325**	0.326**
			(0.133)				(0.133)	(0.131)	(0.140)	(0.141)
Central region '13			0.066				0.050	0.034	-0.107	-0.074
			(0.110)				(0.111)	(0.110)	(0.110)	(0.111)
Southern region '13			0.388***				0.389***	0.383***	0.170*	0.225**
			(0.092)				(0.093)	(0.093)	(0.096)	(0.099)
Female		-0.376***					-0.393***	-0.393***	-0.400***	-0.403***
		(0.042)					(0.043)	(0.043)	(0.043)	(0.043)
Age		0.159***					0.133***	0.130***	0.104***	0.103***
		(0.030)					(0.031)	(0.031)	(0.031)	(0.031)
State admin '13				0.096				0.073	0.018	0.009
				(0.072)				(0.072)	(0.073)	(0.073)
School SES '13					2.319***				1.703***	2.028***
					(0.223)				(0.252)	(0.263)
Communal HDI						-1.551***				0.969***
						(0.271)				(0.331)
Constant	-0.376***	-2.158***	-0.842***	-0.432***	-2.112***	0.268**	-2.293***	-2.294***	-3.008***	-3.679***
	(0.035)	(0.379)	(0.070)	(0.057)	(0.170)	(0.122)	(0.391)	(0.391)	(0.418)	(0.457)
Observations	11,479	11,479	11,479	11,479	11,479	11,479	11,479	11,479	11,479	11,479

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 26: Log-odds of enrolling in a vocational high school over an academic high school for non-indigenous students (2014)

	(0) Empty Model	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Rural school '13			0.800***				0.785***	0.458***	0.086	0.176***
			(0.051)				(0.051)	(0.057)	(0.057)	(0.058)
Northern region '13			0.810***				0.827***	0.673***	0.830***	0.854***
			(0.096)				(0.095)	(0.093)	(0.095)	(0.097)
Central region '13			0.429***				0.434***	0.294***	0.059	0.115**
			(0.055)				(0.055)	(0.058)	(0.052)	(0.053)
Southern region '13			0.457***				0.460***	0.347***	-0.137**	-0.079
			(0.068)				(0.068)	(0.069)	(0.067)	(0.069)
Female		-0.259***					-0.263***	-0.267***	-0.284***	-0.283***
		(0.023)					(0.021)	(0.025)	(0.022)	(0.022)
Age		0.205***					0.201***	0.128***	0.051***	0.040***
		(0.013)					(0.013)	(0.013)	(0.012)	(0.012)
State admin '13				1.105***				0.970***	0.332***	0.295***
				(0.049)				(0.051)	(0.052)	(0.053)
School SES '13					3.817***				3.606***	4.047***
					(0.110)				(0.124)	(0.137)
Communal HDI						-3.085***				1.473***
						(0.178)				(0.213)
Constant	-1.152***	-3.564***	-1.548***	-1.700***	-3.343***	0.392***	-3.907***	-3.367***	-3.981***	-4.855***
	(0.024)	(0.169)	(0.042)	(0.040)	(0.077)	(0.085)	(0.167)	(0.179)	(0.172)	(0.217)
Observations	204,547	204,547	204,547	204,547	204,547	204,547	204,547	204,547	204,547	204,547

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 27: Log-odds of enrolling in a vocational high school over an academic high school for students in the northern regions (2014)

	(0) Empty Model	(1) Only Indig. Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Indigenous		0.374***	0.359***	0.228*	0.241**	-0.175	0.266**	0.215*	0.132	-0.149	-0.160
		(0.124)	(0.123)	(0.126)	(0.123)	(0.130)	(0.121)	(0.126)	(0.141)	(0.136)	(0.138)
Female			-0.183**					-0.185***	-0.175**	-0.191**	-0.192**
			(0.071)					(0.071)	(0.088)	(0.092)	(0.092)
Age			0.185***					0.180***	0.044	-0.030	-0.034
			(0.042)					(0.042)	(0.044)	(0.041)	(0.041)
Rural school '13				0.669*				0.660*	0.448	0.135	0.316
				(0.355)				(0.358)	(0.369)	(0.373)	(0.391)
State admin '13					1.444***				1.422***	1.153***	1.132***
					(0.189)				(0.189)	(0.185)	(0.189)
School SES '13						3.127***				2.374***	2.726***
						(0.385)				(0.376)	(0.369)
Communal HDI							-2.016**				1.686**
							(0.824)				(0.802)
Constant	-0.683***	-0.710***	-2.894***	-0.733***	-1.516***	-2.227***	0.369	-2.850***	-1.967***	-2.056***	-3.077***
	(0.082)	(0.086)	(0.576)	(0.087)	(0.173)	(0.238)	(0.425)	(0.575)	(0.620)	(0.646)	(0.675)
Observations	18,471	18,471	18,471	18,471	18,471	18,471	18,471	18,471	18,471	18,471	18,471

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 28: Log-odds of enrolling in a vocational high school over an academic high school for students in the central regions (2014)

	(0) Empty Model	(1) Only Indig. Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Indigenous		0.458***	0.435***	0.303***	0.241***	-0.181**	0.354***	0.284***	0.179**	-0.172**	-0.138*
		(0.083)	(0.083)	(0.082)	(0.088)	(0.086)	(0.084)	(0.082)	(0.085)	(0.085)	(0.084)
Female			-0.337***					-0.337***	-0.360***	-0.371***	-0.370***
			(0.030)					(0.031)	(0.032)	(0.034)	(0.034)
Age			0.210***					0.192***	0.100***	0.030	0.008
			(0.018)					(0.019)	(0.019)	(0.018)	(0.018)
Rural school '13				0.852***				0.838***	0.424***	0.105	0.309***
				(0.064)				(0.064)	(0.071)	(0.073)	(0.076)
State admin '13					1.197***				1.096***	0.286***	0.272***
					(0.077)				(0.080)	(0.089)	(0.087)
School SES '13						4.177***				3.684***	4.412***
						(0.174)				(0.210)	(0.224)
Communal HDI							-1.696***				2.996***
							(0.288)				(0.319)
Constant	-0.989***	-0.999***	-3.424***	-1.128***	-1.684***	-3.574***	-0.197	-3.334***	-2.756***	-3.642***	-5.261***
	(0.034)	(0.034)	(0.239)	(0.040)	(0.067)	(0.123)	(0.133)	(0.241)	(0.243)	(0.256)	(0.315)
Observations	81,990	81,990	81,990	81,990	81,990	81,990	81,990	81,990	81,990	81,990	81,990

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 29: Log-odds of enrolling in a vocational high school over an academic high school for students in the southern regions (2014)

	(0) Empty Model	(1) Only Indig. Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Indigenous		0.779***	0.779***	0.605***	0.748***	0.378***	0.605***	0.610***	0.591***	0.333***	0.366***
		(0.054)	(0.054)	(0.049)	(0.053)	(0.051)	(0.049)	(0.050)	(0.050)	(0.050)	(0.048)
Female			-0.374***					-0.374***	-0.372***	-0.378***	-0.382***
			(0.039)					(0.039)	(0.040)	(0.040)	(0.040)
Age			0.206***					0.186***	0.164***	0.126***	0.116***
			(0.027)					(0.026)	(0.026)	(0.027)	(0.027)
Rural school '13				0.789***				0.774***	0.746***	0.375***	0.417***
				(0.082)				(0.082)	(0.083)	(0.086)	(0.089)
State admin '13					0.497***				0.449***	0.198**	0.181*
					(0.095)				(0.095)	(0.094)	(0.094)
School SES '13						3.008***				2.685***	3.045***
						(0.265)				(0.274)	(0.293)
Communal HDI							-2.228***				1.121***
							(0.359)				(0.369)
Constant	-0.797***	-0.962***	-3.327***	-1.089***	-1.218***	-2.987***	0.040	-3.203***	-3.170***	-4.307***	-4.936***
	(0.048)	(0.053)	(0.352)	(0.061)	(0.082)	(0.207)	(0.149)	(0.346)	(0.344)	(0.388)	(0.444)
Observations	32,196	32,196	32,196	32,196	32,196	32,196	32,196	32,196	32,196	32,196	32,196

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 30: Log-odds of enrolling in a vocational high school over an academic high school for students in the metropolitan region (2014)

	(0) Empty Model	(1) Only Indig. Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Indigenous		0.691***	0.693***	0.699***	0.561***	0.129**	0.480***	0.701***	0.573***	0.130**	0.129*
		(0.064)	(0.065)	(0.064)	(0.071)	(0.065)	(0.064)	(0.065)	(0.071)	(0.066)	(0.066)
Female			-0.165***					-0.163***	-0.159***	-0.180***	-0.180***
			(0.041)					(0.040)	(0.050)	(0.034)	(0.034)
Age			0.210***					0.208***	0.157***	0.061***	0.063***
			(0.022)					(0.022)	(0.025)	(0.020)	(0.020)
Rural school '13				0.588***				0.578***	0.229	-0.097	-0.107
				(0.146)				(0.147)	(0.179)	(0.170)	(0.173)
State admin '13					0.839***				0.803***	0.076	0.085
					(0.086)				(0.090)	(0.082)	(0.083)
School SES '13						4.427***				4.337***	4.272***
						(0.168)				(0.190)	(0.234)
Communal HDI							-4.627***				-0.192
							(0.329)				(0.408)
Constant	-1.489***	-1.513***	-4.029***	-1.537***	-1.826***	-3.802***	0.977***	-4.031***	-3.684***	-4.448***	-4.331***
	(0.042)	(0.042)	(0.292)	(0.043)	(0.059)	(0.108)	(0.172)	(0.291)	(0.320)	(0.283)	(0.411)
Observations	83,369	83,369	83,369	83,369	83,369	83,369	83,369	83,369	83,369	83,369	83,369

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 31: Log-odds of enrolling in higher education over not enrolling (2018)

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Indigenous		-0.110***	-0.104***	-0.079***	-0.084***	0.048	-0.041	-0.072**	-0.063**	0.024	0.022
		(0.032)	(0.032)	(0.029)	(0.032)	(0.031)	(0.032)	(0.029)	(0.029)	(0.029)	(0.029)
Vocational HS '17		-0.722***	-0.706***	-0.708***	-0.665***	-0.477***	-0.680***	-0.693***	-0.647***	-0.450***	-0.448***
		(0.026)	(0.025)	(0.025)	(0.026)	(0.028)	(0.025)	(0.025)	(0.026)	(0.027)	(0.027)
Rural school '13				-0.161***				-0.162***	-0.100***	-0.025	-0.030
				(0.026)				(0.026)	(0.027)	(0.027)	(0.027)
Rural school '17				-0.145**				-0.134*	-0.160**	-0.092	-0.093
				(0.072)				(0.070)	(0.071)	(0.067)	(0.067)
Northern region '13				0.031				0.030	0.041	-0.004	-0.008
				(0.074)				(0.074)	(0.074)	(0.075)	(0.075)
Central region '13				-0.019				-0.015	-0.004	0.006	0.000
				(0.048)				(0.049)	(0.048)	(0.049)	(0.049)
Southern region '13				0.115*				0.116*	0.125*	0.145**	0.139**
				(0.066)				(0.066)	(0.066)	(0.067)	(0.067)
Northern region '17				0.305***				0.294***	0.328***	0.356***	0.357***
				(0.082)				(0.082)	(0.082)	(0.083)	(0.083)
Central region '17				-0.017				-0.024	0.001	0.093*	0.094*
				(0.052)				(0.052)	(0.051)	(0.052)	(0.052)
Southern region '17				-0.155**				-0.159**	-0.131*	-0.010	-0.009
				(0.069)				(0.069)	(0.068)	(0.069)	(0.069)
Female			-0.079***					-0.080***	-0.077***	-0.069***	-0.069***
			(0.016)					(0.016)	(0.016)	(0.015)	(0.015)
Age			-0.241***					-0.237***	-0.230***	-0.232***	-0.232***
			(0.013)					(0.013)	(0.013)	(0.012)	(0.012)

State admin '13					-0.166***				-0.146***	-0.057***	-0.054***
					(0.019)				(0.019)	(0.020)	(0.020)
State admin '17					-0.072**				-0.083***	0.015	0.016
					(0.028)				(0.027)	(0.027)	(0.027)
School SES '13						-0.455***				-0.419***	-0.440***
						(0.060)				(0.066)	(0.068)
School SES '17						-0.578***				-0.612***	-0.622***
						(0.078)				(0.081)	(0.081)
Communal HDI							0.823***				-0.091
							(0.092)				(0.102)
Constant	0.245***	0.522***	3.510***	0.527***	0.590***	0.909***	0.086*	3.457***	3.412***	3.708***	3.760***
	(0.015)	(0.015)	(0.156)	(0.022)	(0.016)	(0.027)	(0.047)	(0.154)	(0.155)	(0.150)	(0.163)
Observations	158,418	158,418	158,418	158,418	158,418	158,418	158,418	158,418	158,418	158,418	158,418

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 32: Log-odds of enrolling in higher education over not enrolling, for indigenous students (2018)

	(1) Only Indig Status	(2) Demogr	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Vocational HS '17		-0.793***	-0.815***	-0.859***	-0.700***	-0.836***	-0.750***	-0.748***	-0.625***	-0.627***
		(0.064)	(0.064)	(0.065)	(0.071)	(0.064)	(0.063)	(0.063)	(0.070)	(0.070)
Rural school '13			-0.191***				-0.194***	-0.193***	-0.116*	-0.114*
			(0.062)				(0.062)	(0.062)	(0.065)	(0.065)
Rural school '17			-0.358***				-0.306***	-0.311***	-0.259**	-0.258**
			(0.114)				(0.113)	(0.115)	(0.121)	(0.121)
Northern region '13			-0.375				-0.292	-0.279	-0.261	-0.258
			(0.489)				(0.490)	(0.492)	(0.509)	(0.509)
Central region '13			-0.257				-0.241	-0.231	-0.216	-0.212
			(0.261)				(0.265)	(0.266)	(0.271)	(0.270)
Southern region '13			-0.580**				-0.604**	-0.598**	-0.607**	-0.602**
			(0.249)				(0.253)	(0.253)	(0.260)	(0.259)
Northern region '17			0.705				0.639	0.638	0.627	0.625
			(0.477)				(0.480)	(0.481)	(0.499)	(0.499)
Central region '17			0.292				0.313	0.318	0.421	0.419
			(0.258)				(0.261)	(0.261)	(0.266)	(0.266)
Southern region '17			0.512**				0.552**	0.555**	0.726***	0.724***
			(0.251)				(0.255)	(0.255)	(0.267)	(0.267)
Female		0.100*					0.102*	0.103*	0.104*	0.104*
		(0.054)					(0.054)	(0.054)	(0.054)	(0.054)
Age		-0.474***					-0.465***	-0.462***	-0.452***	-0.452***
		(0.043)					(0.043)	(0.043)	(0.043)	(0.043)
State admin '13				-0.055				-0.038	-0.029	-0.029
				(0.055)				(0.054)	(0.055)	(0.055)
State admin '17				-0.011				-0.017	0.035	0.034

				(0.070)				(0.069)	(0.071)	(0.071)
School SES '13					-0.366*				-0.304	-0.290
					(0.198)				(0.205)	(0.218)
School SES '17					-0.874***				-0.709**	-0.697**
					(0.247)				(0.280)	(0.281)
Communal HDI						1.041***				0.060
						(0.215)				(0.263)
Constant	-0.019	6.208***	0.546***	0.531***	1.207***	0.048	6.127***	6.117***	6.415***	6.375***
	(0.040)	(0.528)	(0.069)	(0.064)	(0.116)	(0.105)	(0.531)	(0.530)	(0.539)	(0.562)
Observations	7,880	7,880	7,880	7,880	7,880	7,880	7,880	7,880	7,880	7,880

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 33: Log-odds of enrolling in higher education over not enrolling, for non-indigenous students (2018)

	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Vocational HS '17		-0.701***	-0.703***	-0.651***	-0.463***	-0.671***	-0.690***	-0.639***	-0.438***	-0.435***
		(0.026)	(0.025)	(0.027)	(0.027)	(0.025)	(0.025)	(0.026)	(0.027)	(0.027)
Rural school '13			-0.156***				-0.157***	-0.083***	-0.009	-0.015
			(0.028)				(0.028)	(0.028)	(0.028)	(0.028)
Rural school '17			-0.107				-0.100	-0.125*	-0.054	-0.055
			(0.075)				(0.073)	(0.074)	(0.069)	(0.069)
Northern region '13			0.047				0.046	0.057	0.011	0.007
			(0.075)				(0.075)	(0.075)	(0.076)	(0.076)
Central region '13			-0.009				-0.005	0.006	0.016	0.010
			(0.049)				(0.049)	(0.049)	(0.049)	(0.050)
Southern region '13			0.176**				0.177**	0.187***	0.209***	0.203***
			(0.070)				(0.070)	(0.070)	(0.071)	(0.071)
Northern region '17			0.290***				0.279***	0.315***	0.343***	0.345***
			(0.084)				(0.084)	(0.084)	(0.084)	(0.084)
Central region '17			-0.029				-0.037	-0.009	0.081	0.083
			(0.053)				(0.053)	(0.052)	(0.052)	(0.053)
Southern region '17			-0.210***				-0.215***	-0.183**	-0.066	-0.065
			(0.073)				(0.073)	(0.072)	(0.072)	(0.072)
Female		-0.089***					-0.089***	-0.087***	-0.078***	-0.078***
		(0.016)					(0.016)	(0.016)	(0.015)	(0.015)
Age		-0.226***					-0.222***	-0.215***	-0.218***	-0.217***
		(0.013)					(0.013)	(0.013)	(0.012)	(0.012)
State admin '13				-0.174***				-0.156***	-0.061***	-0.058***
				(0.019)				(0.020)	(0.021)	(0.021)
State admin '17				-0.077***				-0.089***	0.011	0.012

				(0.029)				(0.028)	(0.027)	(0.027)
School SES '13					-0.473***				-0.432***	-0.457***
					(0.060)				(0.066)	(0.068)
School SES '17					-0.562***				-0.604***	-0.615***
					(0.078)				(0.080)	(0.080)
Communal HDI						0.813***				-0.107
						(0.095)				(0.105)
Constant	0.259***	3.330***	0.524***	0.590***	0.905***	0.088*	3.282***	3.232***	3.532***	3.593***
	(0.015)	(0.160)	(0.023)	(0.016)	(0.028)	(0.048)	(0.158)	(0.159)	(0.154)	(0.167)
Observations	150,538	150,538	150,538	150,538	150,538	150,538	150,538	150,538	150,538	150,538

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 34: Log-odds of enrolling in higher education over not enrolling, for students in the northern regions (2018)

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Indigenous		-0.099	-0.077	-0.028	-0.078	0.021	-0.082	-0.011	0.002	0.072	0.077
		(0.106)	(0.101)	(0.095)	(0.104)	(0.102)	(0.104)	(0.091)	(0.091)	(0.087)	(0.089)
Vocational HS '17		-0.949***	-0.912***	-0.913***	-0.850***	-0.768***	-0.938***	-0.878***	-0.780***	-0.701***	-0.681***
		(0.086)	(0.084)	(0.086)	(0.098)	(0.104)	(0.084)	(0.084)	(0.090)	(0.098)	(0.101)
Female			-0.052					-0.048	-0.040	-0.033	-0.032
			(0.050)					(0.050)	(0.049)	(0.048)	(0.048)
Age			-0.375***					-0.369***	-0.356***	-0.348***	-0.344***
			(0.043)					(0.044)	(0.045)	(0.045)	(0.045)
Rural school '13				-0.086				-0.084	-0.025	0.031	-0.063
				(0.115)				(0.114)	(0.116)	(0.119)	(0.130)
Rural school '17				-0.525***				-0.497***	-0.573***	-0.541***	-0.582***
				(0.144)				(0.146)	(0.187)	(0.167)	(0.167)
State admin '13					-0.057				-0.061	-0.018	-0.020
					(0.086)				(0.084)	(0.093)	(0.095)
State admin '17					-0.224*				-0.215*	-0.187	-0.175
					(0.124)				(0.116)	(0.119)	(0.119)
School SES '13						-0.470**				-0.535**	-0.638**
						(0.219)				(0.249)	(0.261)
School SES '17						-0.448				-0.057	-0.225
						(0.337)				(0.330)	(0.321)
Communal HDI							0.324				-1.077***
							(0.381)				(0.414)
Constant	0.527***	0.963***	5.545***	0.965***	1.048***	1.272***	0.784***	5.469***	5.389***	5.483***	6.119***
	(0.057)	(0.042)	(0.538)	(0.042)	(0.047)	(0.071)	(0.208)	(0.545)	(0.552)	(0.557)	(0.621)
Observations	13,241	13,241	13,241	13,241	13,241	13,241	13,241	13,241	13,241	13,241	13,241

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 35: Log-odds of enrolling in higher education over not enrolling, for students in the central regions (2018)

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Loc	(8)Demog + Loc + Admin	(9) Demog + Loc + Admin + SES	(10) Full Model
Indigenous		-0.015	0.003	0.009	0.033	0.115*	-0.002	0.026	0.057	0.128*	0.115*
		(0.064)	(0.065)	(0.066)	(0.062)	(0.069)	(0.064)	(0.066)	(0.063)	(0.070)	(0.069)
Vocational HS '17		-0.742***	-0.723***	-0.719***	-0.659***	-0.493***	-0.736***	-0.700***	-0.637***	-0.476***	-0.438***
		(0.038)	(0.038)	(0.038)	(0.039)	(0.042)	(0.038)	(0.038)	(0.039)	(0.041)	(0.040)
Female			-0.089***					-0.088***	-0.080***	-0.074***	-0.074***
			(0.024)					(0.023)	(0.023)	(0.022)	(0.022)
Age			-0.262***					-0.262***	-0.252***	-0.246***	-0.240***
			(0.019)					(0.019)	(0.019)	(0.019)	(0.019)
Rural school '13				-0.145***				-0.147***	-0.065*	-0.003	-0.075**
				(0.035)				(0.034)	(0.035)	(0.035)	(0.034)
Rural school '17				-0.117				-0.096	-0.121	-0.054	-0.069
				(0.101)				(0.102)	(0.102)	(0.099)	(0.095)
State admin '13					-0.191***				-0.171***	-0.041	-0.036
					(0.029)				(0.029)	(0.031)	(0.031)
State admin '17					-0.089**				-0.079*	0.037	0.031
					(0.042)				(0.042)	(0.044)	(0.042)
School SES '13						-0.427***				-0.400***	-0.574***
						(0.087)				(0.099)	(0.105)
School SES '17						-0.662***				-0.640***	-0.740***
						(0.108)				(0.116)	(0.115)
Communal HDI							0.210				-1.032***
							(0.135)				(0.138)
Constant	0.203***	0.481***	3.722***	0.492***	0.573***	0.949***	0.378***	3.729***	3.679***	3.962***	4.522***
	(0.022)	(0.022)	(0.237)	(0.022)	(0.023)	(0.042)	(0.067)	(0.236)	(0.234)	(0.230)	(0.246)
Observations	62,182	62,182	62,182	62,182	62,182	62,182	62,182	62,182	62,182	62,182	62,182

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 36: Log-odds of enrolling in higher education over not enrolling, for students in the southern regions (2018)

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Loc	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Loc	(8) Demog + Loc + Admin	(9)Demog + Loc + Admin + SES	(10) Full Model
Indigenous		-0.108**	-0.106**	-0.058	-0.094**	0.032	-0.038	-0.056	-0.045	0.055	0.046
		(0.042)	(0.042)	(0.043)	(0.043)	(0.042)	(0.043)	(0.043)	(0.043)	(0.042)	(0.043)
Vocational HS '17		-0.896***	-0.844***	-0.853***	-0.861***	-0.624***	-0.867***	-0.804***	-0.772***	-0.555***	-0.542***
		(0.062)	(0.061)	(0.063)	(0.063)	(0.064)	(0.061)	(0.062)	(0.062)	(0.062)	(0.062)
Female			0.123***					0.122***	0.122***	0.125***	0.126***
			(0.038)					(0.038)	(0.037)	(0.036)	(0.036)
Age			-0.380***					-0.379***	-0.376***	-0.392***	-0.390***
			(0.030)					(0.031)	(0.030)	(0.030)	(0.030)
Rural school '13				-0.228***				-0.236***	-0.213***	-0.123**	-0.134***
				(0.049)				(0.049)	(0.050)	(0.049)	(0.049)
Rural school '17				-0.117				-0.079	-0.120	0.020	0.021
				(0.114)				(0.114)	(0.115)	(0.111)	(0.112)
State admin '13					-0.135***				-0.119***	-0.067*	-0.064
					(0.039)				(0.038)	(0.039)	(0.039)
State admin '17					-0.106*				-0.111*	0.039	0.043
					(0.060)				(0.059)	(0.059)	(0.060)
School SES '13						-0.359***				-0.367***	-0.428***
						(0.123)				(0.129)	(0.142)
School SES '17						-0.839***				-0.796***	-0.842***
						(0.173)				(0.176)	(0.174)
Communal HDI							0.879***				-0.300
							(0.185)				(0.216)
Constant	0.145***	0.528***	5.088***	0.548***	0.623***	1.086***	0.116	5.099***	5.148***	5.800***	5.968***
	(0.040)	(0.036)	(0.375)	(0.036)	(0.044)	(0.067)	(0.087)	(0.375)	(0.375)	(0.384)	(0.391)
Observations	23,111	23,111	23,111	23,111	23,111	23,111	23,111	23,111	23,111	23,111	23,111

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 37: Log-odds of enrolling in higher education over not enrolling, for students in the metropolitan region (2018)

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog+ Loc + Admin	(9) Demog + Loc + Admin + SES	(10) Full Model
Indigenous		-0.095*	-0.096*	-0.096*	-0.077	0.017	-0.044	-0.096*	-0.078	0.017	0.018
		(0.051)	(0.051)	(0.051)	(0.051)	(0.050)	(0.050)	(0.051)	(0.051)	(0.050)	(0.050)
Vocational HS '17		-0.599***	-0.598***	-0.596***	-0.560***	-0.304***	-0.488***	-0.595***	-0.559***	-0.293***	-0.302***
		(0.043)	(0.043)	(0.043)	(0.045)	(0.046)	(0.040)	(0.043)	(0.044)	(0.045)	(0.045)
Female			-0.156***					-0.156***	-0.157***	-0.146***	-0.144***
			(0.027)					(0.027)	(0.028)	(0.025)	(0.024)
Age			-0.122***					-0.123***	-0.118***	-0.130***	-0.140***
			(0.021)					(0.021)	(0.021)	(0.020)	(0.019)
Rural school '13				-0.071				-0.071	0.009	0.102	0.161**
				(0.074)				(0.073)	(0.076)	(0.073)	(0.073)
Rural school '17				-0.030				-0.039	-0.043	-0.022	-0.012
				(0.169)				(0.160)	(0.156)	(0.147)	(0.144)
State admin '13					-0.173***				-0.169***	-0.073**	-0.125***
					(0.035)				(0.035)	(0.034)	(0.033)
State admin '17					-0.023				-0.026	0.049	0.028
					(0.051)				(0.050)	(0.046)	(0.046)
School SES '13						-0.646***				-0.607***	-0.318***
						(0.110)				(0.116)	(0.117)
School SES '17						-0.488***				-0.521***	-0.458***
						(0.146)				(0.146)	(0.146)
Communal HDI							1.375***				0.893***
							(0.162)				(0.159)
Constant	0.267***	0.480***	2.058***	0.482***	0.520***	0.818***	-0.329***	2.063***	2.050***	2.478***	1.984***
	(0.024)	(0.025)	(0.258)	(0.026)	(0.026)	(0.046)	(0.088)	(0.258)	(0.261)	(0.243)	(0.259)
Observations	59,884	59,884	59,884	59,884	59,884	59,884	59,884	59,884	59,884	59,884	59,884

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 38: Log-odds of enrolling in a vocational higher education program over enrolling in an academic higher education program (2018)

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Loc	(8) Demog + Loc + Admin	(9) Demog + Loc + Admin + SES	(10) Full Model
Indigenous		0.236***	0.265***	0.298***	0.142***	-0.197***	0.054	0.317***	0.265***	-0.020	-0.019
		(0.056)	(0.055)	(0.052)	(0.055)	(0.053)	(0.054)	(0.052)	(0.050)	(0.048)	(0.048)
Vocational HS '17		2.083***	2.075***	2.061***	1.970***	1.492***	2.007***	2.050***	1.947***	1.293***	1.291***
		(0.043)	(0.042)	(0.042)	(0.046)	(0.047)	(0.042)	(0.042)	(0.045)	(0.044)	(0.044)
Rural school '13				0.496***				0.533***	0.321***	0.056	0.058
				(0.049)				(0.048)	(0.048)	(0.043)	(0.043)
Rural school '17				0.025				-0.006	0.043	-0.255***	-0.254***
				(0.105)				(0.104)	(0.097)	(0.085)	(0.085)
Northern region '13				-0.164				-0.136	-0.167	0.008	0.009
				(0.115)				(0.115)	(0.116)	(0.117)	(0.117)
Central region '13				-0.186**				-0.174**	-0.213***	-0.185**	-0.183**
				(0.073)				(0.073)	(0.074)	(0.075)	(0.076)
Southern region '13				-0.319***				-0.308***	-0.351***	-0.307***	-0.304***
				(0.104)				(0.105)	(0.106)	(0.113)	(0.113)
Northern region '17				-0.228				-0.215	-0.302**	-0.453***	-0.454***
				(0.140)				(0.141)	(0.140)	(0.145)	(0.145)
Central region '17				0.118				0.125	0.068	-0.397***	-0.397***
				(0.082)				(0.082)	(0.085)	(0.082)	(0.082)
Southern region '17				-0.032				-0.015	-0.080	-0.658***	-0.659***
				(0.113)				(0.114)	(0.117)	(0.121)	(0.121)
Female			-0.298***					-0.302***	-0.317***	-0.385***	-0.385***
			(0.026)					(0.026)	(0.031)	(0.025)	(0.025)
Age			0.518***					0.514***	0.513***	0.571***	0.570***
			(0.022)					(0.022)	(0.022)	(0.021)	(0.022)

State admin '13					0.466***				0.460***	0.239***	0.238***
					(0.032)				(0.036)	(0.035)	(0.034)
State admin '17					0.147***				0.198***	-0.229***	-0.229***
					(0.055)				(0.058)	(0.052)	(0.052)
School SES '13						0.638***				0.600***	0.611***
						(0.103)				(0.108)	(0.111)
School SES '17						2.421***				3.280***	3.286***
						(0.134)				(0.138)	(0.137)
Communal HDI							-2.315***				0.045
							(0.146)				(0.165)
Constant	-0.400***	-1.081***	-7.244***	-1.005***	-1.264***	-2.231***	0.130*	-7.134***	-7.233***	-8.901***	-8.926***
	(0.031)	(0.029)	(0.269)	(0.041)	(0.029)	(0.043)	(0.078)	(0.268)	(0.273)	(0.273)	(0.277)
Observations	84,768	84,768	84,768	84,768	84,768	84,768	84,768	84,768	84,768	84,768	84,768

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 39: Log-odds of enrolling in a vocational higher education program over enrolling in an academic higher education program, for indigenous students (2018)

	(0) Empty Model	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Vocational HS '17		1.719***	1.740***	1.732***	1.491***	1.750***	1.701***	1.675***	1.333***	1.315***
		(0.102)	(0.104)	(0.101)	(0.102)	(0.103)	(0.103)	(0.101)	(0.100)	(0.102)
Rural school '13			0.398***				0.460***	0.452***	0.271**	0.295***
			(0.108)				(0.109)	(0.105)	(0.108)	(0.110)
Rural school '17			-0.028				-0.120	-0.143	-0.409**	-0.407**
			(0.173)				(0.178)	(0.186)	(0.185)	(0.183)
Northern region '13			0.743				0.535	0.416	0.473	0.513
			(0.768)				(0.727)	(0.756)	(0.792)	(0.788)
Central region '13			0.134				0.034	-0.087	0.010	0.051
			(0.398)				(0.387)	(0.391)	(0.410)	(0.408)
Southern region '13			-0.852**				-0.862**	-0.908**	-0.729	-0.644
			(0.415)				(0.435)	(0.448)	(0.469)	(0.472)
Northern region '17			-1.286*				-1.080	-1.045	-1.136	-1.174
			(0.774)				(0.732)	(0.762)	(0.800)	(0.796)
Central region '17			0.013				0.085	0.061	-0.406	-0.421
			(0.397)				(0.382)	(0.385)	(0.406)	(0.405)
Southern region '17			0.641				0.660	0.633	0.010	-0.036
			(0.422)				(0.443)	(0.457)	(0.481)	(0.479)
Female		-0.389***					-0.407***	-0.416***	-0.443***	-0.444***
		(0.075)					(0.076)	(0.077)	(0.078)	(0.078)
Age		0.648***					0.650***	0.642***	0.618***	0.615***
		(0.097)					(0.097)	(0.096)	(0.099)	(0.099)
State admin '13				0.588***				0.567***	0.566***	0.561***
				(0.089)				(0.088)	(0.087)	(0.088)

State admin '17				-0.073				-0.032	-0.232**	-0.242**
				(0.120)				(0.119)	(0.114)	(0.113)
School SES '13					0.156				0.115	0.269
					(0.303)				(0.320)	(0.345)
School SES '17					2.223***				2.751***	2.886***
					(0.386)				(0.423)	(0.416)
Communal HDI						-1.097***				0.693
						(0.338)				(0.484)
Constant	0.144**	-8.343***	-0.619***	-0.967***	-1.971***	-0.223	-8.291***	-8.396***	-9.168***	-9.623***
	(0.072)	(1.189)	(0.107)	(0.100)	(0.184)	(0.162)	(1.180)	(1.181)	(1.218)	(1.238)
Observations	3,776	3,776	3,776	3,776	3,776	3,776	3,776	3,776	3,776	3,776

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 40: Log-odds of enrolling in a vocational higher education program over enrolling in an academic higher education program, for non-indigenous students (2018)

	(0) Empty Model	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Demog + Loc + Admin	(9) Demog + Loc + Admin + SES	(10) Full Model
Vocational HS '17		2.095***	2.079***	1.983***	1.490***	2.020***	2.070***	1.962***	1.292***	1.291***
		(0.043)	(0.043)	(0.047)	(0.048)	(0.043)	(0.042)	(0.046)	(0.044)	(0.044)
Rural school '13			0.506***				0.542***	0.306***	0.041	0.042
			(0.052)				(0.052)	(0.052)	(0.046)	(0.046)
Rural school '17			0.040				0.015	0.065	-0.234***	-0.234***
			(0.114)				(0.113)	(0.103)	(0.090)	(0.090)
Northern region '13			-0.173				-0.141	-0.170	0.009	0.009
			(0.116)				(0.117)	(0.118)	(0.119)	(0.119)
Central region '13			-0.192***				-0.177**	-0.212***	-0.189**	-0.187**
			(0.074)				(0.075)	(0.075)	(0.077)	(0.077)
Southern region '13			-0.268**				-0.259**	-0.303***	-0.269**	-0.268**
			(0.107)				(0.108)	(0.109)	(0.117)	(0.118)
Northern region '17			-0.204				-0.193	-0.283**	-0.434***	-0.434***
			(0.142)				(0.143)	(0.142)	(0.145)	(0.145)
Central region '17			0.118				0.124	0.065	-0.398***	-0.399***
			(0.083)				(0.084)	(0.086)	(0.083)	(0.084)
Southern region '17			-0.098				-0.080	-0.148	-0.719***	-0.719***
			(0.115)				(0.116)	(0.120)	(0.124)	(0.124)
Female		-0.294***					-0.297***	-0.312***	-0.382***	-0.382***
		(0.027)					(0.027)	(0.032)	(0.026)	(0.025)
Age		0.514***					0.509***	0.508***	0.569***	0.569***
		(0.022)					(0.022)	(0.022)	(0.022)	(0.022)

State admin '13				0.455***				0.451***	0.215***	0.215***
				(0.033)				(0.037)	(0.036)	(0.035)
State admin '17				0.161***				0.211***	-0.227***	-0.227***
				(0.056)				(0.060)	(0.053)	(0.053)
School SES '13					0.656***				0.636***	0.640***
					(0.103)				(0.108)	(0.111)
School SES '17					2.427***				3.292***	3.294***
					(0.134)				(0.139)	(0.139)
Communal HDI						-2.383***				0.018
						(0.149)				(0.166)
Constant	-0.427***	-7.200***	-1.009***	-1.268***	-2.242***	0.160**	-7.085***	-7.184***	-8.898***	-8.908***
	(0.031)	(0.274)	(0.041)	(0.029)	(0.044)	(0.080)	(0.273)	(0.279)	(0.278)	(0.283)
Observations	80,992	80,992	80,992	80,992	80,992	80,992	80,992	80,992	80,992	80,992

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 41: Log-odds of enrolling in a vocational higher education program over enrolling in an academic higher education program, for students in the northern regions (2018)

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Dem +Loc + Admin	(9)Dem+Loc + Admin +SES	(10) Full Model
Indigenous		0.089	0.095	0.057	-0.020	-0.203	0.043	0.065	-0.016	-0.175	-0.192
		(0.144)	(0.143)	(0.142)	(0.131)	(0.135)	(0.141)	(0.140)	(0.127)	(0.118)	(0.117)
Vocational HS '17		2.138***	2.104***	2.147***	1.884***	1.694***	2.104***	2.114***	1.856***	1.549***	1.517***
		(0.141)	(0.141)	(0.143)	(0.144)	(0.161)	(0.142)	(0.143)	(0.146)	(0.149)	(0.151)
Female			-0.265***					-0.263***	-0.316***	-0.341***	-0.345***
			(0.074)					(0.074)	(0.071)	(0.071)	(0.071)
Age			0.551***					0.553***	0.535***	0.516***	0.502***
			(0.081)					(0.081)	(0.084)	(0.088)	(0.089)
Rural school '13				0.317*				0.307	0.074	-0.010	0.138
				(0.191)				(0.193)	(0.197)	(0.190)	(0.188)
Rural school '17				-0.469*				-0.482**	-0.285	-0.616**	-0.543**
				(0.242)				(0.242)	(0.267)	(0.256)	(0.249)
State admin '13					0.478***				0.478***	0.495***	0.512***
					(0.120)				(0.122)	(0.127)	(0.126)
State admin '17					0.473**				0.482**	0.222	0.206
					(0.197)				(0.198)	(0.186)	(0.185)
School SES '13						0.411				0.058	0.235
						(0.295)				(0.337)	(0.358)
School SES '17						2.167***				2.143***	2.425***
						(0.464)				(0.434)	(0.411)
Communal HDI							-1.197				1.832***
							(0.734)				(0.626)
Constant	-0.555***	-1.395***	-7.943***	-1.397***	-1.711***	-2.225***	-0.739*	-7.972***	-8.038***	-8.397***	-9.387***
	(0.103)	(0.097)	(0.973)	(0.097)	(0.088)	(0.142)	(0.422)	(0.976)	(1.018)	(1.073)	(1.056)
Observations	7,981	7,981	7,981	7,981	7,981	7,981	7,981	7,981	7,981	7,981	7,981

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 42: Log-odds of enrolling in a vocational higher education program over enrolling in an academic higher education program, for students in the central regions (2018)

	(0) Empty Model	(1)Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Dem + Loc + Admin	(9) Dem+ Loc+Admin + SES	(10) Full Model
Indigenous		0.518***	0.526***	0.456***	0.326***	0.069	0.352***	0.460***	0.305**	0.074	0.077
		(0.115)	(0.116)	(0.110)	(0.122)	(0.108)	(0.112)	(0.111)	(0.119)	(0.107)	(0.107)
Vocational HS '17		2.011***	1.992***	1.959***	1.807***	1.253***	1.966***	1.936***	1.769***	1.177***	1.157***
		(0.069)	(0.067)	(0.069)	(0.076)	(0.072)	(0.067)	(0.068)	(0.074)	(0.068)	(0.068)
Female			-0.246***					-0.256***	-0.305***	-0.363***	-0.363***
			(0.036)					(0.036)	(0.036)	(0.036)	(0.036)
Age			0.650***					0.661***	0.656***	0.681***	0.676***
			(0.033)					(0.033)	(0.034)	(0.033)	(0.033)
Rural school '13				0.543***				0.587***	0.273***	0.063	0.095*
				(0.064)				(0.064)	(0.060)	(0.059)	(0.057)
Rural school '17				-0.244				-0.293*	-0.215	-0.487***	-0.480***
				(0.174)				(0.173)	(0.140)	(0.139)	(0.139)
State admin '13					0.573***				0.542***	0.188***	0.185***
					(0.045)				(0.046)	(0.047)	(0.047)
State admin '17					0.308***				0.321***	-0.217***	-0.215***
					(0.085)				(0.083)	(0.081)	(0.081)
School SES '13						0.671***				0.563***	0.651***
						(0.147)				(0.164)	(0.175)
School SES '17						3.190***				3.446***	3.506***
						(0.195)				(0.228)	(0.226)
Communal HDI							-2.855***				0.492**
							(0.238)				(0.232)
Constant	-0.376***	-1.008***	-8.801***	-1.044***	-1.310***	-2.692***	0.370***	-8.965***	-9.154***	-10.837***	-11.092***
	(0.047)	(0.044)	(0.409)	(0.044)	(0.044)	(0.071)	(0.120)	(0.407)	(0.414)	(0.428)	(0.446)
Observations	33,289	33,289	33,289	33,289	33,289	33,289	33,289	33,289	33,289	33,289	33,289

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 43: Log-odds of enrolling in a vocational higher education program over enrolling in an academic higher education program, for students in the southern regions (2018)

	(0) Empty Model	(1)Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Loc	(8) Dem + Loc + Admin	(9) Dem + Loc+Admin + SES	(10) Full Model
Indigenous		0.455***	0.484***	0.374***	0.380***	0.135*	0.268***	0.397***	0.334***	0.117	0.122
		(0.076)	(0.076)	(0.078)	(0.075)	(0.073)	(0.074)	(0.078)	(0.078)	(0.074)	(0.075)
Vocational HS '17		2.119***	2.105***	2.053***	2.042***	1.471***	2.095***	2.038***	1.966***	1.394***	1.385***
		(0.113)	(0.110)	(0.112)	(0.108)	(0.118)	(0.109)	(0.109)	(0.104)	(0.109)	(0.112)
Female			-0.335***					-0.344***	-0.351***	-0.400***	-0.400***
			(0.051)					(0.050)	(0.050)	(0.052)	(0.052)
Age			0.489***					0.499***	0.519***	0.618***	0.616***
			(0.055)					(0.055)	(0.056)	(0.057)	(0.057)
Rural school '13				0.436***				0.480***	0.371***	0.223***	0.231***
				(0.091)				(0.092)	(0.083)	(0.079)	(0.079)
Rural school '17				0.325**				0.290**	0.392***	-0.133	-0.134
				(0.136)				(0.134)	(0.136)	(0.126)	(0.127)
State admin '13					0.461***				0.428***	0.380***	0.378***
					(0.069)				(0.069)	(0.068)	(0.067)
State admin '17					0.336***				0.374***	-0.075	-0.077
					(0.113)				(0.113)	(0.100)	(0.100)
School SES '13						-0.232				-0.346	-0.304
						(0.214)				(0.215)	(0.232)
School SES '17						3.392***				3.447***	3.482***
						(0.330)				(0.303)	(0.303)
Communal HDI							-2.407***				0.198
							(0.356)				(0.369)
Constant	-0.528***	-1.324***	-7.097***	-1.369***	-1.652***	-2.723***	-0.208	-7.263***	-7.828***	-10.130***	-10.244***
	(0.082)	(0.078)	(0.685)	(0.078)	(0.092)	(0.166)	(0.159)	(0.686)	(0.696)	(0.740)	(0.749)
Observations	11,858	11,858	11,858	11,858	11,858	11,858	11,858	11,858	11,858	11,858	11,858

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 44: Log-odds of enrolling in a vocational higher education program over enrolling in an academic higher education program, for students in the metropolitan region (2018)

	(0) Empty Model	(1)Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Location	(8) Dem + Loc + Admin	(9) Dem + Loc+Admin + SES	(10) Full Model
Indigenous		0.186*	0.215**	0.186*	0.149	-0.188**	0.082	0.216**	0.183*	-0.161*	-0.161*
		(0.099)	(0.099)	(0.099)	(0.097)	(0.086)	(0.096)	(0.099)	(0.098)	(0.089)	(0.089)
Vocational HS '17		2.163***	2.174***	2.150***	2.100***	1.297***	1.971***	2.160***	2.103***	1.217***	1.218***
		(0.067)	(0.065)	(0.067)	(0.070)	(0.073)	(0.063)	(0.065)	(0.068)	(0.066)	(0.066)
Female			-0.348***					-0.351***	-0.353***	-0.435***	-0.435***
			(0.052)					(0.052)	(0.055)	(0.041)	(0.041)
Age			0.376***					0.381***	0.381***	0.476***	0.477***
			(0.035)					(0.035)	(0.035)	(0.033)	(0.034)
Rural school '13				0.511***				0.559***	0.400***	-0.005	-0.008
				(0.125)				(0.125)	(0.135)	(0.107)	(0.107)
Rural school '17				0.230				0.207	0.249	0.129	0.129
				(0.216)				(0.211)	(0.208)	(0.115)	(0.115)
State admin '13					0.408***				0.384***	0.109*	0.111*
					(0.064)				(0.068)	(0.058)	(0.057)
State admin '17					-0.128				-0.147	-0.465***	-0.465***
					(0.109)				(0.110)	(0.083)	(0.082)
School SES '13						1.239***				1.338***	1.325***
						(0.150)				(0.162)	(0.168)
School SES '17						2.903***				3.158***	3.156***
						(0.203)				(0.204)	(0.204)
Communal HDI							-2.998***				-0.040
							(0.245)				(0.232)
Constant	-0.341***	-1.019***	-5.443***	-1.035***	-1.079***	-2.266***	0.723***	-5.522***	-5.563***	-7.908***	-7.886***
	(0.053)	(0.047)	(0.437)	(0.047)	(0.044)	(0.066)	(0.139)	(0.436)	(0.431)	(0.420)	(0.425)
Observations	31,640	31,640	31,640	31,640	31,640	31,640	31,640	31,640	31,640	31,640	31,640

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Supplementary tables for Chapter 4

Table 45: Log-odds of enrolling in a vocational high school over enrolling in an academic high school, and of not enrolling at all over enrolling in an academic high school (2014)

	(0) Empty Model		(1) Only Indig Status		(2) Demog		(3) Location		(4) School Admin	
	Vocational	None	Vocational	None	Vocational	None	Vocational	None	Vocational	None
Indigenous			0.776***	0.667***	0.771***	0.329***	0.529***	0.485***	0.661***	0.534***
			(0.037)	(0.062)	(0.037)	(0.075)	(0.036)	(0.064)	(0.040)	(0.064)
Rural school '13							0.785***	0.872***		
							(0.049)	(0.057)		
Northern region '13							0.779***	0.327***		
							(0.093)	(0.101)		
Central region '13							0.418***	0.063		
							(0.055)	(0.058)		
Southern region '13							0.468***	0.063		
							(0.066)	(0.074)		
Female					-0.267***	-0.057				
					(0.022)	(0.035)				
Age					0.204***	1.789***				
					(0.012)	(0.019)				
State admin '13									1.036***	1.213***
									(0.047)	(0.051)
School SES '13										
Communal HDI										
Constant	-1.104***	-3.465***	-1.152***	-3.504***	-3.541***	-26.654***	-1.540***	-3.653***	-1.662***	-4.126***
	(0.023)	(0.025)	(0.024)	(0.026)	(0.164)	(0.260)	(0.042)	(0.045)	(0.038)	(0.040)
Observations	221,102	221,102	221,102	221,102	221,102	221,102	221,102	221,102	221,102	221,102

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 45 continued

	(5) School SES		(7) Demog + Location		(8) Demog + Loc + Admin		(9) Demog + Loc + Admin + SES		(10) Full Model	
	Vocational	None	Vocational	None	Vocational	None	Vocational	None	Vocational	None
Indigenous	0.098**	-0.025	0.525***	0.249***	0.487***	0.222***	0.130***	-0.010	0.153***	0.043
	(0.038)	(0.063)	(0.036)	(0.077)	(0.037)	(0.076)	(0.036)	(0.076)	(0.036)	(0.075)
Rural school '13			0.771***	0.530***	0.511***	0.357***	0.128**	0.115*	0.211***	0.280***
			(0.049)	(0.064)	(0.053)	(0.065)	(0.054)	(0.065)	(0.055)	(0.065)
Northern region '13			0.797***	0.390***	0.656***	0.276***	0.798***	0.360***	0.819***	0.416***
			(0.092)	(0.095)	(0.089)	(0.091)	(0.093)	(0.095)	(0.095)	(0.096)
Central region '13			0.423***	-0.102*	0.289***	-0.213***	0.056	-0.350***	0.110**	-0.254***
			(0.054)	(0.052)	(0.057)	(0.053)	(0.051)	(0.051)	(0.053)	(0.051)
Southern region '13			0.472***	-0.086	0.380***	-0.154**	-0.087	-0.422***	-0.027	-0.318***
			(0.065)	(0.068)	(0.066)	(0.069)	(0.066)	(0.069)	(0.067)	(0.069)
Female			-0.270***	-0.061*	-0.275***	-0.064*	-0.290***	-0.075**	-0.289***	-0.077**
			(0.021)	(0.035)	(0.023)	(0.036)	(0.021)	(0.035)	(0.021)	(0.035)
Age			0.199***	1.793***	0.136***	1.742***	0.061***	1.677***	0.050***	1.667***
			(0.012)	(0.019)	(0.013)	(0.020)	(0.012)	(0.019)	(0.012)	(0.019)
State admin '13					0.900***	0.660***	0.314***	0.298***	0.280***	0.233***
					(0.049)	(0.049)	(0.050)	(0.055)	(0.051)	(0.054)
School SES '13	3.742***	3.834***					3.522***	2.110***	3.947***	2.935***
	(0.108)	(0.121)					(0.122)	(0.141)	(0.134)	(0.157)
Communal HDI									1.420***	2.644***
									(0.204)	(0.236)
Constant	-3.296***	-5.709***	-3.873***	-26.732***	-3.428***	-26.322***	-4.040***	-26.390***	-4.882***	-28.124***
	(0.075)	(0.083)	(0.162)	(0.259)	(0.171)	(0.264)	(0.166)	(0.261)	(0.209)	(0.293)
Observations	221,102	221,102	221,102	221,102	221,102	221,102	221,102	221,102	221,102	221,102

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 46: Log-odds of enrolling in a vocational high school over enrolling in an academic high school, and of not enrolling at all over enrolling in an academic high school, for indigenous students (2014)

	(0) Empty Model		(2) Demog		(3) Location		(4) School Admin		(5) School SES	
	Vocational	None	Vocational	None	Vocational	None	Vocational	None	Vocational	None
Rural school '13					0.712***	0.878***				
					(0.080)	(0.135)				
Northern region '13					0.327**	-0.035				
					(0.132)	(0.252)				
Central region '13					0.066	0.029				
					(0.110)	(0.189)				
Southern region '13					0.388***	-0.008				
					(0.092)	(0.168)				
Female			-0.376***	-0.091						
			(0.042)	(0.129)						
Age			0.160***	1.577***						
			(0.030)	(0.057)						
State admin '13							0.096	0.389***		
							(0.072)	(0.129)		
School SES '13									2.320***	2.907***
									(0.223)	(0.382)
Communal HDI										
Constant	-0.376***	-2.837***	-2.177***	-23.403***	-0.842***	-3.097***	-0.432***	-3.076***	-2.113***	-5.037***
	(0.035)	(0.061)	(0.379)	(0.791)	(0.070)	(0.127)	(0.057)	(0.106)	(0.170)	(0.308)
Observations	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 46 continued

	(6) Communal HDI		(7) Demog + Location		(8) Demog + Location + Admin		(9) Demog + Location + Admin + SES		(10) Full Model	
	Vocational	None	Vocational	None	Vocational	None	Vocational	None	Vocational	None
Rural school '13			0.705***	0.680***	0.705***	0.690***	0.499***	0.540***	0.539***	0.643***
			(0.081)	(0.156)	(0.081)	(0.156)	(0.089)	(0.166)	(0.090)	(0.169)
Northern region '13			0.331**	-0.051	0.322**	-0.090	0.337**	-0.064	0.337**	-0.029
			(0.133)	(0.307)	(0.131)	(0.310)	(0.141)	(0.311)	(0.142)	(0.307)
Central region '13			0.054	-0.344	0.038	-0.385*	-0.101	-0.483**	-0.069	-0.425*
			(0.110)	(0.221)	(0.110)	(0.222)	(0.110)	(0.226)	(0.110)	(0.225)
Southern region '13			0.388***	-0.167	0.382***	-0.182	0.169*	-0.332*	0.224**	-0.212
			(0.093)	(0.175)	(0.093)	(0.175)	(0.096)	(0.180)	(0.099)	(0.181)
Female			-0.389***	-0.102	-0.389***	-0.102	-0.395***	-0.109	-0.399***	-0.112
			(0.043)	(0.130)	(0.043)	(0.130)	(0.043)	(0.130)	(0.043)	(0.129)
Age			0.138***	1.567***	0.135***	1.561***	0.109***	1.540***	0.106***	1.543***
			(0.031)	(0.058)	(0.031)	(0.058)	(0.031)	(0.057)	(0.031)	(0.057)
State admin '13					0.075	0.206	0.021	0.173	0.012	0.161
					(0.072)	(0.141)	(0.073)	(0.140)	(0.073)	(0.140)
School SES '13							1.706***	1.257***	2.029***	2.035***
							(0.253)	(0.470)	(0.264)	(0.497)
Communal HDI	-1.549***	-1.266***							0.965***	2.193***
	(0.270)	(0.463)							(0.332)	(0.636)
Constant	0.267**	-2.308***	-2.357***	-23.319***	-2.360***	-23.362***	-3.075***	-23.870***	-3.731***	-25.521***
	(0.122)	(0.203)	(0.393)	(0.799)	(0.394)	(0.797)	(0.419)	(0.843)	(0.458)	(0.939)
Observations	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878	11,878

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 47: Log-odds of enrolling in a vocational high school over enrolling in an academic high school, and of not enrolling at all over enrolling in an academic high school, for non-indigenous students (2014)

	(0) Empty Model		(2) Demographics		(3) Location		(4) School Administration		(5) School SES	
	Vocational	None	Vocational	None	Vocational	None	Vocational	None	Vocational	None
Rural school '13					0.799***	0.873***				
					(0.051)	(0.060)				
Northern region '13					0.809***	0.351***				
					(0.096)	(0.104)				
Central region '13					0.428***	0.063				
					(0.055)	(0.059)				
Southern region '13					0.455***	0.067				
					(0.068)	(0.077)				
Female			-0.259***	-0.057						
			(0.023)	(0.036)						
Age			0.207***	1.808***						
			(0.013)	(0.019)						
State admin '13							1.105***	1.266***		
							(0.049)	(0.052)		
School SES '13									3.819***	3.877***
									(0.109)	(0.123)
Communal HDI										
Constant	-1.152***	-3.504***	-3.580***	-26.899***	-1.548***	-3.655***	-1.700***	-4.156***	-3.344***	-5.734***
	(0.024)	(0.026)	(0.170)	(0.269)	(0.042)	(0.046)	(0.040)	(0.041)	(0.077)	(0.084)
Observations	209,224	209,224	209,224	209,224	209,224	209,224	209,224	209,224	209,224	209,224

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 47 continued

	(6) Commune HDI		(7) Demog + Loc		(8) Demog + Loc + Admin		(9) Demog + Loc + Admin + SES		(10) Full Model	
	Vocational	None	Vocational	None	Vocational	None	Vocational	None	Vocational	None
Rural school '13			0.785***	0.507***	0.459***	0.298***	0.085	0.064	0.174***	0.235***
			(0.051)	(0.067)	(0.057)	(0.069)	(0.057)	(0.068)	(0.058)	(0.068)
Northern region '13			0.828***	0.414***	0.672***	0.294***	0.832***	0.385***	0.856***	0.444***
			(0.095)	(0.096)	(0.093)	(0.091)	(0.095)	(0.095)	(0.096)	(0.095)
Central region '13			0.434***	-0.096*	0.294***	-0.209***	0.060	-0.346***	0.114**	-0.248***
			(0.055)	(0.053)	(0.057)	(0.054)	(0.052)	(0.052)	(0.053)	(0.052)
Southern region '13			0.459***	-0.094	0.348***	-0.170**	-0.135**	-0.442***	-0.078	-0.346***
			(0.068)	(0.071)	(0.069)	(0.072)	(0.067)	(0.072)	(0.068)	(0.072)
Female			-0.262***	-0.061*	-0.267***	-0.064*	-0.283***	-0.075**	-0.281***	-0.076**
			(0.021)	(0.036)	(0.025)	(0.037)	(0.022)	(0.036)	(0.022)	(0.036)
Age			0.204***	1.813***	0.133***	1.757***	0.055***	1.691***	0.042***	1.679***
			(0.013)	(0.019)	(0.013)	(0.020)	(0.012)	(0.020)	(0.012)	(0.020)
State admin '13					0.970***	0.685***	0.335***	0.305***	0.297***	0.236***
					(0.051)	(0.051)	(0.052)	(0.057)	(0.053)	(0.056)
School SES '13							3.604***	2.121***	4.041***	2.956***
							(0.123)	(0.145)	(0.136)	(0.162)
Communal HDI	-3.087***	-1.689***							1.457***	2.669***
	(0.178)	(0.208)							(0.212)	(0.245)
Constant	0.393***	-2.642***	-3.941***	-26.996***	-3.423***	-26.539***	-4.024***	-26.578***	-4.879***	-28.312***
	(0.085)	(0.103)	(0.168)	(0.268)	(0.179)	(0.275)	(0.172)	(0.271)	(0.216)	(0.302)
Observations	209,224	209,224	209,224	209,224	209,224	209,224	209,224	209,224	209,224	209,224

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 48: Log-odds of enrolling in a vocational high school over enrolling in an academic high school, and of not enrolling at all over enrolling in an academic high school, for students in the northern regions (2014)

	(0) Empty Model		(1) Only Indig Status		(2) Demographics		(3) Location		(4) School Admin	
	Vocational	None	Vocational	None	Vocational	None	Vocational	None	Vocational	None
Indigenous			0.374***	0.378*	0.365***	0.096	0.228*	0.210	0.248**	0.228
			(0.124)	(0.219)	(0.123)	(0.264)	(0.126)	(0.219)	(0.122)	(0.215)
Female					-0.183***	-0.018				
					(0.071)	(0.104)				
Age					0.187***	1.540***				
					(0.042)	(0.061)				
Rural school '13							0.669*	0.748**		
							(0.355)	(0.363)		
State admin '13									1.444***	1.803***
									(0.189)	(0.179)
School SES '13										
Communal HDI										
Constant	-0.683***	-3.246***	-0.710***	-3.272***	-2.913***	-22.932***	-0.733***	-3.300***	-1.516***	-4.351***
	(0.082)	(0.091)	(0.086)	(0.093)	(0.578)	(0.835)	(0.087)	(0.096)	(0.173)	(0.152)
Observations	18,949	18,949	18,949	18,949	18,949	18,949	18,949	18,949	18,949	18,949

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 48 continued

	(5) School SES		(7) Demog + Location		(8) Demog + Location + Admin		(9) Demog + Location + Admin + SES		(10) Full Model	
	Vocational	None	Vocational	None	Vocational	None	Vocational	None	Vocational	None
Indigenous	-0.169	-0.152	0.222*	0.019	0.140	-0.043	-0.143	-0.186	-0.154	-0.177
	(0.130)	(0.235)	(0.126)	(0.269)	(0.141)	(0.273)	(0.136)	(0.275)	(0.138)	(0.273)
Female			-0.184***	-0.020	-0.172**	0.010	-0.188**	0.004	-0.189**	-0.006
			(0.071)	(0.104)	(0.088)	(0.107)	(0.092)	(0.107)	(0.092)	(0.107)
Age			0.182***	1.538***	0.051	1.425***	-0.023	1.387***	-0.026	1.388***
			(0.042)	(0.061)	(0.044)	(0.063)	(0.041)	(0.061)	(0.041)	(0.062)
Rural school '13			0.661*	0.397	0.450	0.218	0.136	0.067	0.313	0.501
			(0.358)	(0.454)	(0.370)	(0.457)	(0.374)	(0.449)	(0.392)	(0.452)
State admin '13					1.421***	1.311***	1.154***	1.199***	1.132***	1.114***
					(0.189)	(0.168)	(0.185)	(0.180)	(0.189)	(0.184)
School SES '13	3.150***	3.062***					2.391***	0.954**	2.735***	1.733***
	(0.387)	(0.381)					(0.376)	(0.401)	(0.369)	(0.464)
Communal HDI									1.663**	3.763***
									(0.803)	(0.977)
Constant	-2.238***	-4.753***	-2.883***	-22.917***	-2.059***	-22.266***	-2.161***	-22.171***	-3.167***	-24.558***
	(0.239)	(0.227)	(0.577)	(0.837)	(0.620)	(0.827)	(0.648)	(0.816)	(0.672)	(1.091)
Observations	18,949	18,949	18,949	18,949	18,949	18,949	18,949	18,949	18,949	18,949

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 49: Log-odds of enrolling in a vocational high school over enrolling in an academic high school, and of not enrolling at all over enrolling in an academic high school, for students in the central regions (2014)

	(0) Empty Model		(1) Only Indig Status		(2) Demog		(3) Location		(4) School Admin	
	Vocational	None	Vocational	None	Vocational	None	Vocational	None	Vocational	None
Indigenous			0.458***	0.697***	0.438***	0.190	0.302***	0.529***	0.247***	0.457***
			(0.083)	(0.131)	(0.083)	(0.182)	(0.081)	(0.130)	(0.089)	(0.137)
Female					-0.337***	-0.087				
					(0.030)	(0.057)				
Age					0.213***	1.839***				
					(0.019)	(0.028)				
Rural school '13							0.852***	0.909***		
							(0.064)	(0.077)		
State admin '13									1.197***	1.420***
									(0.077)	(0.080)
School SES '13										
Communal HDI										
Constant	-0.989***	-3.439***	-0.999***	-3.457***	-3.462***	-27.366***	-1.128***	-3.598***	-1.684***	-4.305***
	(0.034)	(0.037)	(0.034)	(0.037)	(0.242)	(0.386)	(0.040)	(0.042)	(0.067)	(0.068)
Observations	83,908	83,908	83,908	83,908	83,908	83,908	83,908	83,908	83,908	83,908

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 49 continued

	(5) School SES		(7) Demog + Loc		(8) Demog + Location + Admin		(9) Demog + Location + Admin + SES		(10) Full Model	
	Vocational	None	Vocational	None	Vocational	None	Vocational	None	Vocational	None
Indigenous	-0.178**	-0.007	0.288***	0.095	0.181**	0.038	-0.166**	-0.180	-0.133	-0.134
	(0.085)	(0.134)	(0.081)	(0.186)	(0.085)	(0.185)	(0.084)	(0.187)	(0.083)	(0.181)
Female			-0.336***	-0.082	-0.359***	-0.096*	-0.370***	-0.104*	-0.369***	-0.113*
			(0.031)	(0.057)	(0.032)	(0.058)	(0.034)	(0.058)	(0.034)	(0.058)
Age			0.197***	1.829***	0.105***	1.767***	0.035*	1.711***	0.011	1.698***
			(0.019)	(0.028)	(0.019)	(0.029)	(0.018)	(0.029)	(0.018)	(0.029)
Rural school '13			0.839***	0.550***	0.425***	0.306***	0.105	0.104	0.308***	0.395***
			(0.064)	(0.087)	(0.070)	(0.089)	(0.073)	(0.090)	(0.076)	(0.089)
State admin '13					1.096***	0.651***	0.287***	0.172*	0.273***	0.160*
					(0.080)	(0.079)	(0.088)	(0.090)	(0.087)	(0.086)
School SES '13	4.182***	4.731***					3.683***	2.216***	4.404***	3.133***
	(0.174)	(0.197)					(0.209)	(0.239)	(0.223)	(0.260)
Communal HDI									2.987***	3.975***
									(0.319)	(0.359)
Constant	-3.578***	-6.420***	-3.391***	-27.310***	-2.819***	-26.851***	-3.706***	-27.177***	-5.288***	-29.519***
	(0.123)	(0.138)	(0.244)	(0.386)	(0.246)	(0.386)	(0.258)	(0.389)	(0.315)	(0.458)
Observations	83,908	83,908	83,908	83,908	83,908	83,908	83,908	83,908	83,908	83,908

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 50: Log-odds of enrolling in a vocational high school over enrolling in an academic high school, and of not enrolling at all over enrolling in an academic high school, for students in the southern regions (2014)

	(0) Empty Model		(1) Only Indig Status		(2) Demog		(3) Location		(4) School Admin	
	Vocational	None	Vocational	None	Vocational	None	Vocational	None	Vocational	None
Indigenous			0.779***	0.689***	0.779***	0.420***	0.606***	0.434***	0.749***	0.655***
			(0.054)	(0.093)	(0.054)	(0.108)	(0.049)	(0.098)	(0.053)	(0.093)
Female					-0.373***	-0.208**				
					(0.039)	(0.094)				
Age					0.209***	1.801***				
					(0.027)	(0.044)				
Rural school '13							0.790***	1.097***		
							(0.082)	(0.114)		
State admin '13									0.497***	0.564***
									(0.095)	(0.114)
School SES '13										
Communal HDI										
Constant	-0.797***	-3.301***	-0.962***	-3.442***	-3.366***	-26.786***	-1.090***	-3.644***	-1.219***	-3.737***
	(0.048)	(0.058)	(0.053)	(0.064)	(0.355)	(0.606)	(0.061)	(0.073)	(0.082)	(0.095)
Observations	33,014	33,014	33,014	33,014	33,014	33,014	33,014	33,014	33,014	33,014

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 50 continued

	(5) School SES		(7) Demog + Location		(8) Demog + Location + Admin		(9) Demog + Location + Admin + SES		(10) Full Model	
	Vocational	None	Vocational	None	Vocational	None	Vocational	None	Vocational	None
Indigenous	0.376***	0.241***	0.609***	0.270**	0.590***	0.257**	0.331***	0.086	0.364***	0.170
	(0.051)	(0.092)	(0.050)	(0.110)	(0.050)	(0.110)	(0.050)	(0.108)	(0.048)	(0.106)
Female			-0.372***	-0.197**	-0.370***	-0.196**	-0.375***	-0.199**	-0.378***	-0.209**
			(0.039)	(0.094)	(0.040)	(0.094)	(0.040)	(0.094)	(0.040)	(0.095)
Age			0.191***	1.780***	0.170***	1.767***	0.131***	1.731***	0.121***	1.724***
			(0.027)	(0.044)	(0.026)	(0.044)	(0.027)	(0.045)	(0.027)	(0.045)
Rural school '13			0.774***	0.748***	0.747***	0.732***	0.375***	0.478***	0.417***	0.579***
			(0.083)	(0.120)	(0.083)	(0.120)	(0.086)	(0.127)	(0.089)	(0.130)
State admin '13					0.450***	0.222**	0.201**	0.053	0.183*	0.032
					(0.095)	(0.113)	(0.093)	(0.114)	(0.094)	(0.113)
School SES '13	3.010***	3.477***					2.685***	1.687***	3.038***	2.373***
	(0.265)	(0.296)					(0.273)	(0.300)	(0.292)	(0.346)
Communal HDI									1.111***	2.289***
									(0.368)	(0.519)
Constant	-2.988***	-5.819***	-3.266***	-26.656***	-3.238***	-26.601***	-4.380***	-27.115***	-4.987***	-28.554***
	(0.206)	(0.227)	(0.350)	(0.605)	(0.348)	(0.603)	(0.391)	(0.621)	(0.444)	(0.714)
Observations	33,014	33,014	33,014	33,014	33,014	33,014	33,014	33,014	33,014	33,014

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 51: Log-odds of enrolling in a vocational high school over enrolling in an academic high school, and of not enrolling at all over enrolling in an academic high school, for students in the metropolitan region (2014)

	(0) Empty Model		(1) Only Indig Status		(2) Demog		(3) Location		(4) School Admin	
	Vocational	None	Vocational	None	Vocational	None	Vocational	None	Vocational	None
Indigenous			0.691***	0.546***	0.693***	0.345**	0.698***	0.551***	0.562***	0.366***
			(0.064)	(0.129)	(0.065)	(0.145)	(0.064)	(0.129)	(0.071)	(0.130)
Female					-0.165***	-0.000				
					(0.041)	(0.056)				
Age					0.210***	1.834***				
					(0.022)	(0.033)				
Rural school '13							0.587***	0.425***		
							(0.146)	(0.157)		
State admin '13									0.839***	1.180***
									(0.086)	(0.092)
School SES '13										
Communal HDI										
Constant	-1.489***	-3.598***	-1.513***	-3.616***	-4.027***	-27.288***	-1.537***	-3.632***	-1.826***	-4.105***
	(0.042)	(0.045)	(0.042)	(0.045)	(0.292)	(0.458)	(0.043)	(0.047)	(0.059)	(0.062)
Observations	85,231	85,231	85,231	85,231	85,231	85,231	85,231	85,231	85,231	85,231

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 51 continued

	(5) School SES		(7) Demog + Location		(8) Demog + Location + Admin		(9) Demog + Location + Admin + SES		(10) Full Model	
	Vocational	None	Vocational	None	Vocational	None	Vocational	None	Vocational	None
Indigenous	0.130**	-0.018	0.701***	0.346**	0.573***	0.256*	0.129**	-0.021	0.128*	-0.010
	(0.065)	(0.128)	(0.065)	(0.145)	(0.071)	(0.144)	(0.066)	(0.141)	(0.066)	(0.140)
Female			-0.163***	-0.000	-0.159***	0.003	-0.178***	-0.010	-0.179***	-0.005
			(0.040)	(0.056)	(0.050)	(0.059)	(0.034)	(0.055)	(0.034)	(0.055)
Age			0.208***	1.834***	0.159***	1.781***	0.059***	1.694***	0.060***	1.684***
			(0.022)	(0.033)	(0.025)	(0.036)	(0.020)	(0.032)	(0.020)	(0.033)
Rural school '13			0.578***	0.124	0.227	-0.174	-0.097	-0.359**	-0.107	-0.266*
			(0.147)	(0.159)	(0.179)	(0.164)	(0.169)	(0.159)	(0.173)	(0.158)
State admin '13					0.804***	0.726***	0.083	0.294***	0.090	0.226**
					(0.090)	(0.082)	(0.082)	(0.092)	(0.083)	(0.089)
School SES '13	4.402***	4.451***					4.322***	2.420***	4.261***	3.025***
	(0.166)	(0.240)					(0.188)	(0.238)	(0.232)	(0.270)
Communal HDI									-0.187	1.626***
									(0.405)	(0.428)
Constant	-3.789***	-5.921***	-4.029***	-27.295***	-3.705***	-26.895***	-4.415***	-26.794***	-4.301***	-27.857***
	(0.107)	(0.149)	(0.291)	(0.458)	(0.318)	(0.473)	(0.279)	(0.456)	(0.407)	(0.474)
Observations	85,231	85,231	85,231	85,231	85,231	85,231	85,231	85,231	85,231	85,231

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 52: Log-odds of enrolling in an academic higher education program over not enrolling, and of enrolling in a vocational higher education program over not enrolling (2018)

	(0) Empty Model		(1) Only Indig Status		(2) Demog		(3) Location		(4) School Admin	
	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc
Indigenous			-0.178***	-0.033	-0.181***	-0.029	-0.179***	0.049	-0.111**	-0.042
			(0.047)	(0.037)	(0.046)	(0.037)	(0.042)	(0.035)	(0.047)	(0.036)
Vocational HS '17			-1.613***	0.471***	-1.583***	0.467***	-1.597***	0.471***	-1.522***	0.443***
			(0.037)	(0.030)	(0.036)	(0.030)	(0.036)	(0.031)	(0.038)	(0.033)
Rural school '13							-0.380***	0.040		
							(0.037)	(0.032)		
Rural school '17							-0.113	-0.114		
							(0.082)	(0.089)		
Northern region '13							0.101	0.008		
							(0.084)	(0.096)		
Central region '13							0.056	-0.101*		
							(0.056)	(0.058)		
Southern region '13							0.223***	-0.059		
							(0.081)	(0.078)		
Northern region '17							0.458***	0.107		
							(0.097)	(0.107)		
Central region '17							0.050	0.086		
							(0.061)	(0.062)		
Southern region '17							-0.045	-0.164*		
							(0.084)	(0.085)		
Female					0.075***	-0.172***				
					(0.018)	(0.020)				
Age					-0.450***	-0.055***				
					(0.018)	(0.015)				
State									-0.304***	0.089***

admin '13									(0.025)	(0.023)
State admin '17									-0.095** (0.039)	0.043 (0.034)
School SES '13										
School SES '17										
Communal HDI										
Constant	-0.372*** (0.021)	-0.773*** (0.017)	0.071*** (0.016)	-1.007*** (0.021)	5.506*** (0.216)	-0.250 (0.182)	-0.017 (0.023)	-0.983*** (0.029)	0.179*** (0.017)	-1.049*** (0.022)
Observations	158,418	158,418	158,418	158,418	158,418	158,418	158,418	158,418	158,418	158,418

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 52 continued

	(5) School SES		(7) Demog + Location		(8) Demog + Location + Admin		(9) Demog + Location + Admin + SES		(10) Full Model	
	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc
Indigenous	0.069	-0.174***	-0.180***	0.054	-0.144***	0.052	0.004	-0.060*	0.004	-0.061*
	(0.044)	(0.039)	(0.041)	(0.035)	(0.041)	(0.034)	(0.039)	(0.034)	(0.039)	(0.034)
Vocational HS '17	-1.270***	0.228***	-1.566***	0.466***	-1.486***	0.437***	-1.168***	0.119***	-1.167***	0.122***
	(0.040)	(0.039)	(0.035)	(0.030)	(0.037)	(0.032)	(0.038)	(0.037)	(0.038)	(0.038)
Rural school '13			-0.388***	0.042	-0.244***	0.007	-0.108***	-0.082**	-0.109***	-0.088***
			(0.037)	(0.032)	(0.037)	(0.032)	(0.035)	(0.032)	(0.035)	(0.032)
Rural school '17			-0.089	-0.119	-0.127	-0.100	0.012	-0.233**	0.012	-0.234**
			(0.080)	(0.087)	(0.081)	(0.086)	(0.068)	(0.096)	(0.068)	(0.096)
Northern region '13			0.090	0.012	0.107	0.002	0.041	0.074	0.040	0.070
			(0.085)	(0.096)	(0.085)	(0.097)	(0.085)	(0.097)	(0.085)	(0.097)
Central region '13			0.057	-0.099*	0.072	-0.109*	0.054	-0.096*	0.053	-0.102*
			(0.057)	(0.058)	(0.057)	(0.058)	(0.059)	(0.058)	(0.059)	(0.058)
Southern region '13			0.225***	-0.058	0.249***	-0.064	0.224***	-0.039	0.222***	-0.046
			(0.081)	(0.079)	(0.081)	(0.078)	(0.083)	(0.081)	(0.084)	(0.082)
Northern region '17			0.441***	0.099	0.485***	0.071	0.561***	0.022	0.561***	0.025
			(0.097)	(0.107)	(0.098)	(0.107)	(0.099)	(0.110)	(0.099)	(0.110)
Central region '17			0.036	0.081	0.075	0.062	0.271***	-0.153**	0.271***	-0.150**
			(0.061)	(0.062)	(0.062)	(0.063)	(0.063)	(0.062)	(0.063)	(0.062)
Southern region '17			-0.058	-0.166**	-0.016	-0.188**	0.221***	-0.486***	0.221***	-0.484***
			(0.084)	(0.085)	(0.085)	(0.085)	(0.085)	(0.090)	(0.085)	(0.090)
Female			0.075***	-0.173***	0.079***	-0.175***	0.097***	-0.192***	0.097***	-0.192***
			(0.018)	(0.020)	(0.020)	(0.020)	(0.018)	(0.021)	(0.018)	(0.021)
Age			-0.439***	-0.052***	-0.433***	-0.057***	-0.459***	-0.067***	-0.458***	-0.066***
			(0.018)	(0.015)	(0.018)	(0.015)	(0.017)	(0.014)	(0.017)	(0.015)
State					-0.292***	0.100***	-0.176***	0.009	-0.175***	0.012

admin '13					(0.027)	(0.023)	(0.028)	(0.024)	(0.028)	(0.024)
State admin '17					-0.124***	0.057*	0.094**	-0.098***	0.095**	-0.097***
					(0.039)	(0.034)	(0.038)	(0.036)	(0.038)	(0.036)
School SES '13	-0.319***	0.200**					-0.258***	0.251***	-0.264***	0.223**
	(0.075)	(0.079)					(0.077)	(0.087)	(0.081)	(0.090)
School SES '17	-1.088***	0.954***					-1.332***	1.539***	-1.335***	1.524***
	(0.096)	(0.118)					(0.099)	(0.120)	(0.099)	(0.120)
Communal HDI									-0.025	-0.120
									(0.116)	(0.115)
Constant	0.544***	-1.458***	5.293***	-0.261	5.294***	-0.225	5.924***	-0.592***	5.939***	-0.522***
	(0.026)	(0.040)	(0.214)	(0.185)	(0.215)	(0.185)	(0.205)	(0.188)	(0.219)	(0.198)
Observations	158,418	158,418	158,418	158,418	158,418	158,418	158,418	158,418	158,418	158,418

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 53: Log-odds of enrolling in an academic higher education program over not enrolling, and of enrolling in a vocational higher education program over not enrolling, for indigenous students (2018)

	(0) Empty Model		(2) Demog		(3) Location		(4) School Admin	
	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc
Vocational HS '17			-1.664***	0.032	-1.703***	0.042	-1.738***	-0.012
			(0.088)	(0.073)	(0.091)	(0.071)	(0.089)	(0.072)
Rural school '13					-0.431***	-0.054		
					(0.091)	(0.070)		
Rural school '17					-0.400***	-0.348***		
					(0.150)	(0.125)		
Northern region '13					-0.806	-0.402		
					(0.588)	(0.554)		
Central region '13					-0.527*	-0.275		
					(0.320)	(0.316)		
Southern region '13					-0.165	-0.813**		
					(0.290)	(0.322)		
Northern region '17					1.478**	0.399		
					(0.577)	(0.550)		
Central region '17					0.530*	0.366		
					(0.318)	(0.313)		
Southern region '17					0.273	0.575*		
					(0.299)	(0.324)		
Female			0.311***	-0.028				
			(0.070)	(0.062)				
Age			-0.832***	-0.275***				
			(0.076)	(0.048)				
State admin '13							-0.360***	0.206***
							(0.073)	(0.065)
State admin '17							0.052	-0.017
							(0.104)	(0.079)
School SES '13								

School SES '17								
Communal HDI								
Constant	-0.851***	-0.707***	9.919***	2.672***	-0.047	-0.574***	0.142*	-0.812***
	(0.067)	(0.036)	(0.933)	(0.587)	(0.087)	(0.079)	(0.080)	(0.069)
Observations	7,880	7,880	7,880	7,880	7,880	7,880	7,880	7,880

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 53 continued

	(5) School SES		(7) Demog + Loc		(8) Dem + Loc + Admin		(9) Dem + Loc + Admin + SES		(10) Full Model	
	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc
Vocational HS '17	-1.450***	0.034	-1.615***	0.072	-1.592***	0.061	-1.285***	0.025	-1.278***	0.011
	(0.095)	(0.079)	(0.088)	(0.072)	(0.087)	(0.072)	(0.094)	(0.081)	(0.094)	(0.082)
Rural school '13			-0.457***	-0.054	-0.439***	-0.054	-0.285***	-0.043	-0.298***	-0.027
			(0.090)	(0.070)	(0.087)	(0.070)	(0.088)	(0.073)	(0.089)	(0.073)
Rural school '17			-0.293*	-0.323***	-0.303*	-0.317**	-0.119	-0.351***	-0.122	-0.346***
			(0.151)	(0.123)	(0.157)	(0.126)	(0.152)	(0.130)	(0.152)	(0.128)
Northern region '13			-0.695	-0.361	-0.649	-0.416	-0.580	-0.416	-0.592	-0.397
			(0.584)	(0.559)	(0.595)	(0.560)	(0.631)	(0.588)	(0.633)	(0.590)
Central region '13			-0.483	-0.274	-0.401	-0.317	-0.471	-0.275	-0.491	-0.244
			(0.321)	(0.317)	(0.333)	(0.314)	(0.348)	(0.316)	(0.346)	(0.318)
Southern region '13			-0.189	-0.828**	-0.138	-0.838**	-0.276	-0.760**	-0.311	-0.721**
			(0.286)	(0.325)	(0.292)	(0.326)	(0.300)	(0.333)	(0.300)	(0.333)
Northern region '17			1.386**	0.372	1.373**	0.387	1.342**	0.383	1.355**	0.365
			(0.576)	(0.555)	(0.587)	(0.554)	(0.625)	(0.582)	(0.628)	(0.583)
Central region '17			0.528*	0.390	0.521	0.375	0.840**	0.301	0.845**	0.279
			(0.318)	(0.314)	(0.328)	(0.310)	(0.345)	(0.314)	(0.344)	(0.315)
Southern region '17			0.309	0.604*	0.299	0.586*	0.787**	0.472	0.802***	0.452
			(0.293)	(0.327)	(0.299)	(0.327)	(0.312)	(0.341)	(0.310)	(0.340)
Female			0.321***	-0.030	0.325***	-0.034	0.328***	-0.034	0.331***	-0.035

			(0.070)	(0.062)	(0.071)	(0.062)	(0.071)	(0.062)	(0.071)	(0.062)
Age			-0.818***	-0.268***	-0.803***	-0.275***	-0.773***	-0.279***	-0.771***	-0.280***
			(0.076)	(0.048)	(0.076)	(0.048)	(0.077)	(0.049)	(0.077)	(0.049)
State admin '13					-0.332***	0.205***	-0.312***	0.214***	-0.310***	0.211***
					(0.071)	(0.065)	(0.072)	(0.066)	(0.073)	(0.066)
State admin '17					0.054	0.005	0.230**	-0.008	0.236**	-0.014
					(0.097)	(0.079)	(0.093)	(0.081)	(0.093)	(0.081)
School SES '13	-0.347	-0.379*					-0.270	-0.345	-0.342	-0.240
	(0.277)	(0.223)					(0.275)	(0.245)	(0.293)	(0.256)
School SES '17	-1.929***	-0.056					-1.991***	0.469	-2.048***	0.565*
	(0.320)	(0.292)					(0.344)	(0.333)	(0.339)	(0.331)
Communal HDI									-0.344	0.453
									(0.354)	(0.320)
Constant	1.221***	-0.410***	9.688***	2.707***	9.606***	2.697***	10.073***	2.761***	10.285***	2.446***
	(0.139)	(0.148)	(0.921)	(0.593)	(0.922)	(0.596)	(0.931)	(0.610)	(0.963)	(0.637)
Observations	7,880	7,880	7,880	7,880	7,880	7,880	7,880	7,880	7,880	7,880

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 54: Log-odds of enrolling in an academic higher education program over not enrolling, and of enrolling in a vocational higher education program over not enrolling, for non-indigenous students (2018)

	(0) Empty Model		(2) Demographics		(3) Location		(4) School Admin	
	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc
Vocational HS '17			-1.578***	0.490***	-1.593***	0.492***	-1.509***	0.469***
			(0.036)	(0.030)	(0.036)	(0.031)	(0.038)	(0.033)
Rural school '13					-0.371***	0.056*		
					(0.039)	(0.034)		
Rural school '17					-0.073	-0.061		
					(0.086)	(0.094)		
Northern region '13					0.121	0.028		
					(0.085)	(0.098)		
Central region '13					0.070	-0.096		
					(0.057)	(0.059)		
Southern region '13					0.248***	0.023		
					(0.085)	(0.083)		
Northern region '17					0.431***	0.099		
					(0.098)	(0.109)		
Central region '17					0.036	0.075		
					(0.062)	(0.064)		
Southern region '17					-0.063	-0.241***		
					(0.088)	(0.089)		
Female			0.065***	-0.181***				
			(0.018)	(0.020)				
Age			-0.433***	-0.036**				
			(0.018)	(0.015)				
State admin '13							-0.302***	0.076***
							(0.026)	(0.023)
State							-0.105***	0.045

admin '17							(0.039)	(0.035)
School SES '13								
School SES '17								
Communal HDI								
Constant	-0.350***	-0.777***	5.302***	-0.479**	-0.022	-0.997***	0.177***	-1.057***
	(0.021)	(0.017)	(0.219)	(0.187)	(0.023)	(0.029)	(0.017)	(0.022)
Observations	150,538	150,538	150,538	150,538	150,538	150,538	150,538	150,538

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 54 continued

	(5) School SES		(7) Demographics + Location		(8) Demog + Location + Admin		(9) Demog + Location + Admin + SES		(10) Full Model	
	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc
Vocational HS '17	-1.259***	0.234***	-1.564***	0.485***	-1.477***	0.459***	-1.160***	0.124***	-1.159***	0.129***
	(0.040)	(0.039)	(0.036)	(0.031)	(0.037)	(0.033)	(0.038)	(0.037)	(0.038)	(0.038)
Rural school '13			-0.379***	0.059*	-0.217***	0.023	-0.079**	-0.065*	-0.081**	-0.075**
			(0.039)	(0.033)	(0.040)	(0.033)	(0.038)	(0.034)	(0.037)	(0.033)
Rural school '17			-0.054	-0.067	-0.091	-0.049	0.046	-0.192*	0.046	-0.194*
			(0.084)	(0.091)	(0.084)	(0.090)	(0.070)	(0.101)	(0.070)	(0.101)
Northern region '13			0.109	0.034	0.126	0.026	0.059	0.102	0.058	0.096
			(0.085)	(0.098)	(0.086)	(0.098)	(0.086)	(0.098)	(0.086)	(0.098)
Central region '13			0.071	-0.093	0.083	-0.101*	0.069	-0.088	0.068	-0.097
			(0.057)	(0.060)	(0.058)	(0.060)	(0.059)	(0.059)	(0.059)	(0.060)
Southern region '13			0.252***	0.023	0.274***	0.018	0.256***	0.038	0.255***	0.029
			(0.085)	(0.083)	(0.085)	(0.083)	(0.087)	(0.087)	(0.087)	(0.087)
Northern region '17			0.415***	0.091	0.462***	0.063	0.537***	0.014	0.537***	0.018
			(0.098)	(0.109)	(0.099)	(0.109)	(0.099)	(0.112)	(0.099)	(0.112)
Central region '17			0.022	0.071	0.064	0.052	0.254***	-0.169***	0.254***	-0.165***
			(0.062)	(0.064)	(0.063)	(0.064)	(0.064)	(0.064)	(0.064)	(0.064)

Southern region '17			-0.077	-0.243***	-0.031	-0.265***	0.195**	-0.566***	0.196**	-0.563***
			(0.088)	(0.089)	(0.088)	(0.090)	(0.088)	(0.095)	(0.088)	(0.095)
Female			0.065***	-0.182***	0.069***	-0.184***	0.087***	-0.202***	0.087***	-0.202***
			(0.019)	(0.020)	(0.021)	(0.021)	(0.018)	(0.021)	(0.018)	(0.021)
Age			-0.422***	-0.034**	-0.416***	-0.039**	-0.443***	-0.050***	-0.443***	-0.048***
			(0.018)	(0.015)	(0.018)	(0.015)	(0.017)	(0.015)	(0.017)	(0.015)
State admin '13					-0.293***	0.085***	-0.172***	-0.015	-0.171***	-0.011
					(0.028)	(0.024)	(0.028)	(0.025)	(0.028)	(0.025)
State admin '17					-0.136***	0.058*	0.083**	-0.108***	0.083**	-0.107***
					(0.039)	(0.035)	(0.038)	(0.037)	(0.038)	(0.037)
School SES '13	-0.338***	0.202**					-0.279***	0.273***	-0.286***	0.230**
	(0.073)	(0.080)					(0.076)	(0.088)	(0.080)	(0.091)
School SES '17	-1.046***	1.013***					-1.294***	1.593***	-1.297***	1.570***
	(0.095)	(0.119)					(0.099)	(0.120)	(0.099)	(0.121)
Communal HDI									-0.030	-0.179
									(0.117)	(0.118)
Constant	0.533***	-1.491***	5.089***	-0.488***	5.092***	-0.452**	5.735***	-0.833***	5.752***	-0.731***
	(0.026)	(0.039)	(0.218)	(0.189)	(0.218)	(0.190)	(0.208)	(0.193)	(0.223)	(0.203)
Observations	150,538	150,538	150,538	150,538	150,538	150,538	150,538	150,538	150,538	150,538

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 55: Log-odds of enrolling in an academic higher education program over not enrolling, and of enrolling in a vocational higher education program over not enrolling, for students in the northern regions (2018)

	(0) Empty Model		(1) Only Indig Status		(2) Demographics		(3) Location		(4) School Admin	
	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc
Indigenous			-0.093	-0.108	-0.072	-0.098	-0.019	-0.039	-0.021	-0.117
			(0.131)	(0.111)	(0.127)	(0.109)	(0.131)	(0.090)	(0.132)	(0.112)
Vocational HS '17			-1.724***	0.419***	-1.670***	0.426***	-1.697***	0.457***	-1.538***	0.340***
			(0.135)	(0.098)	(0.132)	(0.099)	(0.140)	(0.097)	(0.143)	(0.107)
Female					0.129**	-0.117*				
					(0.056)	(0.070)				
Age					-0.586***	-0.146***				
					(0.061)	(0.055)				
Rural school '13							-0.285**	0.006		
							(0.144)	(0.144)		
Rural school '17							-0.173	-0.683***		
							(0.172)	(0.194)		
State admin '13									-0.201*	0.268***
									(0.114)	(0.097)
State admin '17									-0.394**	-0.006
									(0.174)	(0.124)
School SES '13										
School SES '17										
Communal HDI										
Constant	-0.037	-0.592***	0.559***	-0.831***	7.596***	1.007	0.563***	-0.830***	0.731***	-0.931***
	(0.080)	(0.052)	(0.049)	(0.072)	(0.738)	(0.669)	(0.049)	(0.072)	(0.048)	(0.071)
Observations	13,241	13,241	13,241	13,241	13,241	13,241	13,241	13,241	13,241	13,241

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 55 continued

	(5) School SES		(7) Demographics + Location		(8) Demog + Location + Admin		(9) Demog + Location + Admin+ SES		(10) Full Model	
	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc
Indigenous	0.107	-0.155	-0.002	-0.029	0.047	-0.026	0.155	-0.052	0.163	-0.052
	(0.124)	(0.119)	(0.128)	(0.088)	(0.130)	(0.088)	(0.119)	(0.095)	(0.122)	(0.095)
Vocational HS '17	-1.441***	0.268**	-1.646***	0.463***	-1.460***	0.383***	-1.319***	0.227**	-1.295***	0.231**
	(0.162)	(0.118)	(0.137)	(0.098)	(0.143)	(0.104)	(0.152)	(0.114)	(0.153)	(0.115)
Female			0.131**	-0.112	0.149***	-0.117*	0.157***	-0.119*	0.158***	-0.119*
			(0.056)	(0.070)	(0.054)	(0.069)	(0.053)	(0.070)	(0.053)	(0.070)
Age			-0.582***	-0.138**	-0.568***	-0.147***	-0.563***	-0.159***	-0.555***	-0.159***
			(0.061)	(0.056)	(0.062)	(0.055)	(0.063)	(0.054)	(0.063)	(0.054)
Rural school '13			-0.284**	0.003	-0.137	-0.065	-0.090	-0.049	-0.260	-0.071
			(0.143)	(0.143)	(0.144)	(0.147)	(0.150)	(0.145)	(0.160)	(0.152)
Rural school '17			-0.138	-0.664***	-0.292	-0.579***	-0.174	-0.765***	-0.242	-0.775***
			(0.172)	(0.195)	(0.245)	(0.177)	(0.214)	(0.186)	(0.199)	(0.191)
State admin '13					-0.202*	0.262***	-0.178	0.314***	-0.180	0.314***
					(0.111)	(0.095)	(0.126)	(0.097)	(0.130)	(0.097)
State admin '17					-0.385**	-0.004	-0.282*	-0.142	-0.266	-0.139
					(0.166)	(0.119)	(0.169)	(0.123)	(0.170)	(0.123)
School SES '13	-0.382	-0.197					-0.248	-0.476*	-0.445	-0.501*
	(0.246)	(0.258)					(0.288)	(0.261)	(0.315)	(0.264)
School SES '17	-1.040**	0.917***					-0.687*	1.394***	-0.916**	1.364***
	(0.420)	(0.349)					(0.384)	(0.355)	(0.374)	(0.353)
Communal HDI									-1.869***	-0.248
									(0.494)	(0.483)
Constant	0.995***	-1.045***	7.552***	0.904	7.538***	0.929	7.719***	0.845	8.794***	0.993
	(0.086)	(0.109)	(0.744)	(0.681)	(0.758)	(0.676)	(0.770)	(0.675)	(0.793)	(0.754)
Observations	13,241	13,241	13,241	13,241	13,241	13,241	13,241	13,241	13,241	13,241

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 56: Log-odds of enrolling in an academic higher education program over not enrolling, and of enrolling in a vocational higher education program over not enrolling, for students in the central regions (2018)

	(0) Empty Model		(1) Only Indig Status		(2) Demog		(3) Location		(4) School Admin	
	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc
Indigenous			-0.266***	0.218***	-0.254***	0.223***	-0.215**	0.210***	-0.130	0.185**
			(0.089)	(0.078)	(0.088)	(0.077)	(0.087)	(0.076)	(0.092)	(0.081)
Vocational HS '17			-1.672***	0.339***	-1.633***	0.329***	-1.626***	0.332***	-1.517***	0.278***
			(0.057)	(0.046)	(0.055)	(0.046)	(0.056)	(0.047)	(0.060)	(0.050)
Female					0.035	-0.163***				
					(0.028)	(0.030)				
Age					-0.558***	-0.025				
					(0.028)	(0.024)				
Rural school '13							-0.401***	0.082*		
							(0.050)	(0.042)		
Rural school '17							0.036	-0.177		
							(0.123)	(0.134)		
State admin '13									-0.377***	0.138***
									(0.037)	(0.036)
State admin '17									-0.191***	0.118**
									(0.060)	(0.054)
School SES '13										
School SES '17										
Communal HDI										
Constant	-0.381***	-0.757***	0.078***	-0.929***	6.848***	-0.531*	0.104***	-0.933***	0.252***	-1.027***
	(0.034)	(0.025)	(0.026)	(0.033)	(0.331)	(0.294)	(0.026)	(0.033)	(0.025)	(0.035)
Observations	62,182	62,182	62,182	62,182	62,182	62,182	62,182	62,182	62,182	62,182

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 56 continued

	(5) School SES		(7) Demog + Location		(8) Demog + Loc + Admin		(9) Demog + Loc + Admin + SES		(10) Full Model	
	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc
Indigenous	-0.010	0.076	-0.203**	0.215***	-0.101	0.190**	0.004	0.092	-0.008	0.086
	(0.090)	(0.068)	(0.086)	(0.076)	(0.090)	(0.081)	(0.089)	(0.067)	(0.089)	(0.066)
Vocational HS '17	-1.231***	0.012	-1.586***	0.321***	-1.468***	0.267***	-1.166***	-0.008	-1.137***	0.011
	(0.060)	(0.055)	(0.055)	(0.047)	(0.058)	(0.050)	(0.058)	(0.054)	(0.057)	(0.054)
Female			0.038	-0.164***	0.054**	-0.175***	0.070***	-0.186***	0.070***	-0.186***
			(0.027)	(0.030)	(0.027)	(0.030)	(0.026)	(0.031)	(0.027)	(0.031)
Age			-0.560***	-0.024	-0.551***	-0.034	-0.564***	-0.056**	-0.559***	-0.054**
			(0.027)	(0.024)	(0.027)	(0.024)	(0.026)	(0.023)	(0.026)	(0.023)
Rural school '13			-0.410***	0.086**	-0.189***	0.021	-0.072	-0.054	-0.135***	-0.088**
			(0.049)	(0.042)	(0.049)	(0.041)	(0.048)	(0.042)	(0.047)	(0.041)
Rural school '17			0.071	-0.174	0.020	-0.148	0.153	-0.281**	0.145	-0.290**
			(0.121)	(0.134)	(0.110)	(0.130)	(0.106)	(0.137)	(0.099)	(0.135)
State admin '13					-0.343***	0.139***	-0.158***	-0.004	-0.153***	-0.002
					(0.038)	(0.036)	(0.040)	(0.039)	(0.040)	(0.038)
State admin '17					-0.181***	0.126**	0.099*	-0.070	0.098*	-0.074
					(0.059)	(0.053)	(0.059)	(0.057)	(0.059)	(0.056)
School SES '13	-0.441***	0.140					-0.318**	0.185	-0.461***	0.097
	(0.114)	(0.106)					(0.129)	(0.118)	(0.135)	(0.129)
School SES '17	-1.370***	1.540***					-1.408***	1.679***	-1.491***	1.629***
	(0.136)	(0.160)					(0.153)	(0.167)	(0.152)	(0.165)
Communal HDI									-0.887***	-0.493***
									(0.175)	(0.183)
Constant	0.796***	-1.700***	6.891***	-0.557*	6.919***	-0.515*	7.597***	-0.962***	8.079***	-0.689**
	(0.044)	(0.069)	(0.330)	(0.296)	(0.326)	(0.299)	(0.314)	(0.305)	(0.337)	(0.323)
Observations	62,182	62,182	62,182	62,182	62,182	62,182	62,182	62,182	62,182	62,182

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 57: Log-odds of enrolling in an academic higher education program over not enrolling, and of enrolling in a vocational higher education program over not enrolling, for students in the southern regions (2018)

	(0) Empty Model		(1) Only Indig Status		(2) Demographics		(3) Location		(4) School Admin	
	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc
Indigenous			-0.275***	0.050	-0.287***	0.053	-0.197***	0.057	-0.219***	0.044
			(0.062)	(0.052)	(0.061)	(0.052)	(0.063)	(0.052)	(0.062)	(0.051)
Vocational HS '17			-1.764***	0.354***	-1.703***	0.377***	-1.694***	0.359***	-1.708***	0.320***
			(0.101)	(0.073)	(0.097)	(0.073)	(0.102)	(0.074)	(0.102)	(0.072)
Female					0.266***	0.020				
					(0.040)	(0.049)				
Age					-0.528***	-0.198***				
					(0.042)	(0.037)				
Rural school '13							-0.387***	-0.034		
							(0.070)	(0.062)		
Rural school '17							-0.283**	-0.010		
							(0.143)	(0.125)		
State admin '13									-0.259***	0.162***
									(0.048)	(0.052)
State admin '17									-0.193**	0.134*
									(0.080)	(0.076)
School SES '13										
School SES '17										
Communal HDI										
Constant	-0.411***	-0.939***	0.160***	-1.142***	6.441***	1.266***	0.195***	-1.139***	0.326***	-1.278***
	(0.061)	(0.040)	(0.041)	(0.054)	(0.514)	(0.461)	(0.041)	(0.055)	(0.049)	(0.063)
Observations	23,111	23,111	23,111	23,111	23,111	23,111	23,111	23,111	23,111	23,111

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 57 continued

	(5) School SES		(7) Demographics + Location		(8) Demog + Location + Admin		(9) Demog + Location + Admin + SES		(10) Full Model	
	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc
Indigenous	-0.041	-0.005	-0.206***	0.060	-0.159**	0.056	-0.012	0.021	-0.012	0.028
	(0.058)	(0.053)	(0.062)	(0.052)	(0.062)	(0.051)	(0.058)	(0.052)	(0.059)	(0.053)
Vocational HS '17	-1.340***	0.140	-1.636***	0.381***	-1.585***	0.346***	-1.234***	0.170*	-1.235***	0.158
	(0.106)	(0.096)	(0.098)	(0.074)	(0.099)	(0.073)	(0.100)	(0.095)	(0.099)	(0.096)
Female			0.267***	0.020	0.265***	0.018	0.279***	0.018	0.280***	0.018
			(0.039)	(0.049)	(0.039)	(0.049)	(0.038)	(0.050)	(0.038)	(0.051)
Age			-0.528***	-0.198***	-0.530***	-0.205***	-0.569***	-0.208***	-0.569***	-0.210***
			(0.042)	(0.037)	(0.042)	(0.037)	(0.042)	(0.037)	(0.042)	(0.037)
Rural school '13			-0.407***	-0.037	-0.332***	-0.054	-0.215***	-0.050	-0.215***	-0.041
			(0.069)	(0.062)	(0.064)	(0.060)	(0.063)	(0.062)	(0.064)	(0.062)
Rural school '17			-0.231	0.005	-0.297**	0.063	-0.013	-0.075	-0.013	-0.077
			(0.141)	(0.124)	(0.142)	(0.125)	(0.130)	(0.130)	(0.131)	(0.129)
State admin '13					-0.232***	0.160***	-0.168***	0.165***	-0.168***	0.162***
					(0.047)	(0.052)	(0.047)	(0.054)	(0.048)	(0.053)
State admin '17					-0.203***	0.149*	0.090	0.063	0.089	0.059
					(0.078)	(0.076)	(0.075)	(0.083)	(0.075)	(0.083)
School SES '13	-0.085	-0.471**					-0.079	-0.563***	-0.078	-0.509**
	(0.143)	(0.190)					(0.150)	(0.199)	(0.170)	(0.206)
School SES '17	-1.637***	1.314***					-1.594***	1.289***	-1.592***	1.336***
	(0.214)	(0.276)					(0.210)	(0.286)	(0.207)	(0.293)
Communal HDI									-0.002	0.244
									(0.286)	(0.269)
Constant	0.876***	-1.492***	6.480***	1.269***	6.658***	1.210***	7.674***	1.009**	7.674***	0.867*
	(0.072)	(0.146)	(0.511)	(0.464)	(0.512)	(0.463)	(0.522)	(0.506)	(0.539)	(0.523)
Observations	23,111	23,111	23,111	23,111	23,111	23,111	23,111	23,111	23,111	23,111

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 58: Log-odds of enrolling in an academic higher education program over not enrolling, and of enrolling in a vocational higher education program over not enrolling, for students in the metropolitan region (2018)

	(0) Empty Model		(1) Only Indig Status		(2) Demographics		(3) Location		(4) School Admin	
	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc
Indigenous			-0.151**	0.040	-0.162**	0.045	-0.150**	0.042	-0.126*	0.043
			(0.075)	(0.060)	(0.074)	(0.060)	(0.075)	(0.060)	(0.075)	(0.060)
Vocational HS '17			-1.505***	0.659***	-1.495***	0.654***	-1.496***	0.652***	-1.446***	0.660***
			(0.055)	(0.051)	(0.054)	(0.051)	(0.055)	(0.051)	(0.057)	(0.053)
Female					0.028	-0.273***				
					(0.034)	(0.033)				
Age					-0.266***	0.004				
					(0.029)	(0.023)				
Rural school '13							-0.252**	0.158**		
							(0.105)	(0.078)		
Rural school '17							-0.125	0.075		
							(0.196)	(0.188)		
State admin '13									-0.298***	0.002
									(0.051)	(0.036)
State admin '17									0.075	-0.053
									(0.067)	(0.060)
School SES '13										
School SES '17										
Communal HDI										
Constant	-0.424***	-0.764***	-0.058**	-1.077***	3.171***	-0.983***	-0.051**	-1.082***	-0.014	-1.067***
	(0.033)	(0.030)	(0.024)	(0.035)	(0.349)	(0.285)	(0.024)	(0.035)	(0.023)	(0.034)
Observations	59,884	59,884	59,884	59,884	59,884	59,884	59,884	59,884	59,884	59,884

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 58 continued

	(5) School SES		(7) Demographics + Location		(8) Demog + Location + Admin		(9) Demog + Location + Admin + SES		(10) Full Model	
	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc	Aca	Voc
Indigenous	0.054	-0.084	-0.161**	0.047	-0.138*	0.052	0.038	-0.080	0.039	-0.079
	(0.071)	(0.060)	(0.074)	(0.060)	(0.074)	(0.060)	(0.072)	(0.061)	(0.072)	(0.060)
Vocational HS '17	-1.112***	0.205***	-1.486***	0.647***	-1.433***	0.650***	-1.052***	0.171***	-1.058***	0.166***
	(0.058)	(0.068)	(0.054)	(0.051)	(0.056)	(0.052)	(0.057)	(0.064)	(0.057)	(0.064)
Female			0.028	-0.273***	0.029	-0.274***	0.049	-0.305***	0.050*	-0.304***
			(0.034)	(0.033)	(0.036)	(0.032)	(0.030)	(0.032)	(0.029)	(0.032)
Age			-0.267***	0.004	-0.263***	0.007	-0.304***	0.008	-0.313***	0.003
			(0.028)	(0.023)	(0.029)	(0.023)	(0.026)	(0.023)	(0.026)	(0.023)
Rural school '13			-0.261**	0.163**	-0.143	0.182**	0.045	0.041	0.086	0.067
			(0.104)	(0.079)	(0.112)	(0.078)	(0.102)	(0.078)	(0.103)	(0.077)
Rural school '17			-0.122	0.059	-0.138	0.060	-0.089	0.026	-0.075	0.029
			(0.194)	(0.168)	(0.192)	(0.168)	(0.153)	(0.183)	(0.152)	(0.181)
State admin '13					-0.284***	-0.006	-0.164***	-0.145***	-0.207***	-0.167***
					(0.053)	(0.036)	(0.048)	(0.036)	(0.048)	(0.036)
State admin '17					0.082	-0.071	0.218***	-0.231***	0.203***	-0.239***
					(0.066)	(0.060)	(0.060)	(0.062)	(0.060)	(0.062)
School SES '13	-0.508***	0.598***					-0.471***	0.768***	-0.267*	0.898***
	(0.127)	(0.133)					(0.131)	(0.139)	(0.138)	(0.143)
School SES '17	-0.980***	1.442***					-1.103***	1.566***	-1.070***	1.601***
	(0.166)	(0.222)					(0.171)	(0.220)	(0.171)	(0.221)
Communal HDI									0.590***	0.421**
									(0.153)	(0.165)
Constant	0.324***	-1.720***	3.189***	-0.997***	3.187***	-1.012***	4.014***	-1.687***	3.706***	-1.926***
	(0.035)	(0.058)	(0.348)	(0.285)	(0.348)	(0.284)	(0.321)	(0.293)	(0.334)	(0.304)
Observations	59,884	59,884	59,884	59,884	59,884	59,884	59,884	59,884	59,884	59,884

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Tables and illustrations for chapter 5: Fields of study in higher education

Table 59: OECD fields of study of 2012 seventh-graders who enrolled in higher education in 2018

OECD fields of study	Frequencies	Percent.
Agriculture	2,365	3%
Sciences	5,748	7%
Social Sciences, Management, Law	19,393	23%
Education	7,928	9%
Humanities and Arts	3,909	5%
Engineering, Industry, Construction	21,051	25%
Health and Social Services	19,165	23%
Services	5,209	6%
Total	84,768	100%

Table 60: Main OECD fields of study by type of degree, indigenous status, gender, and type of high school

	Engineering, Industry, Construction	Social Sciences, Management, Law	Health and Social Services	Other field	Total
Total	21,051	19,393	19,165	25,159	84,768
	25%	23%	23%	30%	100%
Vocational program	11,023	5,696	6,045	11,246	34,010
% of field in vocational prog	52%	29%	32%	45%	40%
Academic	10,028	13,697	13,120	13,913	50,758
% of field in academic prog	48%	71%	68%	55%	60%
Indigenous	989	740	901	1,146	3,776
% of field who is indigenous	5%	4%	5%	5%	4%
Non-indigenous	20,062	18,653	18,264	24,013	80,992
% of field who is nonindigenous	95%	96%	95%	95%	96%
Female	4,603	11,173	14,950	13,860	44,586
% of field who is female	22%	58%	78%	55%	53%
Male	16,448	8,220	4,215	11,299	40,182
% of field who is male	78%	42%	22%	45%	47%
Vocational HS	8,544	5,961	4,247	7,107	25,859
% of field from vocational HS	41%	31%	22%	28%	31%
Academic HS	12,507	13,432	14,918	18,052	58,909
% of field from academic HS	59%	69%	78%	72%	69%

Table 61: Main OECD fields of study by indigenous status, gender, and type of high school, column percentages

		Engineering, Industry, Construction			Social Sciences, Management, Law			Health and Social Services			Other			Total		
		Subtotal	Voc	Aca	Subtotal	Voc	Aca	Subtotal	Voc	Aca	Subtotal	Voc	Aca	Total	Voc	Aca
	Total	21,051	11,023	10,028	19,393	5,696	13,697	19,165	6,045	13,120	25,159	11,246	13,913	84,768	34,010	50,758
	Col %		52%	48%		29%	71%		32%	68%		45%	55%		40%	60%
Indig status	Indig	989	662	327	740	343	397	901	367	534	1,146	652	494	3,776	2,024	1,752
	Col %	5%	6%	3%	4%	6%	3%	5%	6%	4%	5%	6%	4%	4%	6%	3%
	Non-indig	20,062	10,361	9,701	18,653	5,353	13,300	18,264	5,678	12,586	24,013	10,594	13,419	80,992	31,986	49,006
	Col %	95%	94%	97%	96%	94%	97%	95%	94%	96%	95%	94%	96%	96%	94%	97%
Gender	Female	4,603	1,263	3,340	11,173	3,498	7,675	14,950	5,158	9,792	13,860	6,204	7,656	44,586	16,123	28,463
	Col %	22%	11%	33%	58%	61%	56%	78%	85%	75%	55%	55%	55%	53%	47%	56%
	Male	16,448	9,760	6,688	8,220	2,198	6,022	4,215	887	3,328	11,299	5,042	6,257	40,182	17,887	22,295
	Col %	78%	89%	67%	42%	39%	44%	22%	15%	25%	45%	45%	45%	47%	53%	44%
Type of high school	Voc	8,544	7,264	1,280	5,961	3,835	2,126	4,247	2,813	1,434	7,107	5,085	2,022	25,859	18,997	6,862
	Col %	41%	66%	13%	31%	67%	16%	22%	47%	11%	28%	45%	15%	31%	56%	14%
	Aca	12,507	3,759	8,748	13,432	1,861	11,571	14,918	3,232	11,686	18,052	6,161	11,891	58,909	15,013	43,896
	Col %	59%	34%	87%	69%	33%	84%	78%	53%	89%	72%	55%	85%	69%	44%	86%

Table 62: Main OECD fields of study by indigenous status, gender, and type of high school, row percentages

		Engineering, Industry, Construction			Social Sciences, Management, Law			Health and Social Services			Total		
		Subtotal	Voc	Aca	Subtotal	Voc	Aca	Subtotal	Voc	Aca	Total	Voc	Aca
	Total	21,051	11,023	10,028	19,393	5,696	13,697	19,165	6,045	13,120	84,768	34,010	50,758
	Row % (total)	25%			23%			23%			100%		
	Row % (voc)		32%			17%			18%			100%	
	Row % (aca)			20%			27%			26%			100%
Indigenous status	Indigenous	989	662	327	740	343	397	901	367	534	3,776	2,024	1,752
	Row % (total)	26%			20%			24%			100%		
	Row % (voc)		33%			17%			18%			100%	
	Row % (aca)			19%			23%			30%			100%
	Non-indig	20,062	10,361	9,701	18,653	5,353	13,300	18,264	5,678	12,586	80,992	31,986	49,006
	Row % (total)	25%			23%			23%			100%		
	Row % (voc)		32%			17%			18%			100%	
	Row % (aca)			20%			27%			26%			100%
Gender	Female	4,603	1,263	3,340	11,173	3,498	7,675	14,950	5,158	9,792	44,586	16,123	28,463
	Row % (total)	10%			25%			34%			100%		
	Row % (voc)		8%			22%			32%			100%	
	Row % (aca)			12%			27%			34%			100%
	Male	16,448	9,760	6,688	8,220	2,198	6,022	4,215	887	3,328	40,182	17,887	22,295
	Row % (total)	41%			20%			10%			100%		
	Row % (voc)		55%			12%			5%			100%	
	Row % (aca)			30%			27%			15%			100%
High	Vocational HS	8,544	7,264	1,280	5,961	3,835	2,126	4,247	2,813	1,434	25,859	18,997	6,862
	Row % (total)	33%			23%			16%			100%		

Row % (voc)		38%			20%			15%			100%	
Row % (aca)			19%			31%			21%			100%
Academic HS	12,507	3,759	8,748	13,432	1,861	11,571	14,918	3,232	11,686	58,909	15,013	43,896
Row % (total)	21%			23%			25%			100%		
Row % (voc)		25%			12%			22%			100%	
Row % (aca)			20%			26%			27%			100%

Table 63: Log-odds of enrolling in an Engineering, Industry & Construction program over enrolling in any other field

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Loc	(8) Demog + Loc + Admin	(9) Demog + Loc + Admin + SES	(10) Full Model
Indigenous		-0.076	-0.004	-0.033	-0.069	-0.020	-0.065	0.017	0.022	0.059	0.058
		(0.051)	(0.047)	(0.045)	(0.051)	(0.050)	(0.051)	(0.044)	(0.044)	(0.043)	(0.043)
Vocational HS '17		0.508***	0.495***	0.504***	0.507***	0.598***	0.516***	0.482***	0.483***	0.589***	0.592***
		(0.057)	(0.048)	(0.056)	(0.057)	(0.065)	(0.058)	(0.047)	(0.047)	(0.053)	(0.053)
Rural school '13				-0.034				0.043	0.047	0.073*	0.066
				(0.044)				(0.040)	(0.041)	(0.041)	(0.041)
Rural school '17				0.078				0.021	0.017	0.062	0.061
				(0.184)				(0.152)	(0.151)	(0.151)	(0.151)
Northern region '13				-0.048				0.026	0.014	-0.005	-0.010
				(0.105)				(0.112)	(0.112)	(0.112)	(0.112)
Central region '13				0.145**				0.213***	0.204***	0.191**	0.184**
				(0.073)				(0.079)	(0.079)	(0.079)	(0.080)
Southern region '13				-0.081				-0.032	-0.040	-0.060	-0.068
				(0.104)				(0.111)	(0.111)	(0.111)	(0.111)
Northern region '17				0.382***				0.386***	0.409***	0.428***	0.429***
				(0.125)				(0.125)	(0.125)	(0.124)	(0.124)
Central region '17				0.155*				0.147*	0.161*	0.229***	0.230***
				(0.083)				(0.084)	(0.084)	(0.085)	(0.085)
Southern region '17				0.131				0.143	0.161	0.242**	0.243**
				(0.115)				(0.114)	(0.114)	(0.113)	(0.113)
Female			-1.764***					-1.776***	-1.775***	-1.771***	-1.771***
			(0.028)					(0.028)	(0.028)	(0.028)	(0.028)
Age			-0.108***					-0.092***	-0.091***	-0.094***	-0.093***
			(0.020)					(0.019)	(0.019)	(0.019)	(0.019)
State					0.040				0.033	0.056*	0.060*

admin '13					(0.032)				(0.029)	(0.031)	(0.031)
State					-0.076				-0.079*	-0.015	-0.014
admin '17					(0.056)				(0.046)	(0.051)	(0.051)
School						-0.121				0.032	0.003
SES '13						(0.093)				(0.090)	(0.093)
School						-0.239*				-0.515***	-0.527***
SES '17						(0.141)				(0.127)	(0.128)
Communal							0.132				-0.123
HDI							(0.114)				(0.136)
Constant	-1.051***	-1.210***	0.837***	-1.369***	-1.202***	-1.089***	-1.281***	0.452*	0.449*	0.574**	0.642**
	(0.022)	(0.013)	(0.239)	(0.032)	(0.017)	(0.029)	(0.061)	(0.239)	(0.238)	(0.241)	(0.258)
Observations	88,867	88,867	88,867	88,867	88,867	88,867	88,867	88,867	88,867	88,867	88,867

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 64: Log-odds of enrolling in a Social Sciences, Management, & Law program over enrolling in any other field

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Loc	(8) Dem + Loc + Admin	(9) Dem + Loc + Admin + SES	(10) Full Model
Indigenous		-0.225***	-0.237***	-0.129***	-0.174***	-0.011	-0.100**	-0.138***	-0.117**	-0.005	-0.003
		(0.049)	(0.049)	(0.047)	(0.049)	(0.049)	(0.049)	(0.047)	(0.047)	(0.047)	(0.047)
Vocational HS '17		0.039	0.052	0.063	0.114**	0.404***	0.126**	0.077	0.129**	0.404***	0.398***
		(0.052)	(0.051)	(0.052)	(0.053)	(0.061)	(0.053)	(0.051)	(0.052)	(0.059)	(0.059)
Rural school '13				-0.098**				-0.111**	-0.030	0.065	0.085*
				(0.045)				(0.044)	(0.046)	(0.046)	(0.046)
Rural school '17				-0.501***				-0.491***	-0.513***	-0.430***	-0.426***
				(0.135)				(0.129)	(0.131)	(0.131)	(0.132)
Northern region '13				0.014				0.002	0.009	-0.037	-0.022
				(0.109)				(0.109)	(0.109)	(0.108)	(0.108)
Central region '13				-0.147*				-0.155*	-0.146*	-0.150*	-0.129
				(0.080)				(0.080)	(0.080)	(0.081)	(0.082)
Southern region '13				0.011				0.003	0.013	0.006	0.028
				(0.110)				(0.109)	(0.110)	(0.111)	(0.111)
Northern region '17				-0.314***				-0.308***	-0.273**	-0.233**	-0.238**
				(0.120)				(0.120)	(0.119)	(0.117)	(0.117)
Central region '17				-0.228***				-0.225***	-0.198**	-0.069	-0.071
				(0.084)				(0.084)	(0.083)	(0.085)	(0.085)
Southern region '17				-0.385***				-0.388***	-0.358***	-0.197*	-0.200*
				(0.117)				(0.116)	(0.116)	(0.116)	(0.116)
Female			0.273***					0.282***	0.287***	0.307***	0.308***
			(0.026)					(0.025)	(0.025)	(0.024)	(0.024)
Age			0.028					0.010	0.014	-0.003	-0.007
			(0.022)					(0.022)	(0.022)	(0.021)	(0.021)
State					-0.200***				-0.160***	-0.064*	-0.076**

admin '13					(0.033)				(0.032)	(0.033)	(0.033)
State					-0.143***				-0.106**	0.039	0.035
admin '17					(0.052)				(0.050)	(0.054)	(0.053)
School						-0.273***				-0.303***	-0.217**
SES '13						(0.093)				(0.097)	(0.096)
School						-1.127***				-0.955***	-0.926***
SES '17						(0.130)				(0.133)	(0.135)
Communal							1.542***				0.341**
HDI							(0.115)				(0.137)
Constant	-1.239***	-1.241***	-1.730***	-1.020***	-1.156***	-0.804***	-2.081***	-1.298***	-1.306***	-0.842***	-1.029***
	(0.019)	(0.016)	(0.263)	(0.027)	(0.018)	(0.028)	(0.062)	(0.261)	(0.262)	(0.254)	(0.271)
Observations	88,867	88,867	88,867	88,867	88,867	88,867	88,867	88,867	88,867	88,867	88,867

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 65: Log-odds of enrolling in a Health & Social Services program over enrolling in any other field

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Loc	(8) Demogr + Loc + Admin	(9) Demog + Loc + Admin + SES	(10) Full Model
Indigenous		0.175***	0.120***	0.051	0.134***	0.009	0.068	0.007	-0.007	-0.075	-0.078*
		(0.047)	(0.046)	(0.046)	(0.047)	(0.047)	(0.047)	(0.046)	(0.046)	(0.046)	(0.046)
Vocational HS '17		-0.504***	-0.466***	-0.511***	-0.554***	-0.711***	-0.568***	-0.469***	-0.501***	-0.615***	-0.608***
		(0.043)	(0.037)	(0.044)	(0.044)	(0.044)	(0.043)	(0.038)	(0.039)	(0.038)	(0.039)
Rural school '13				0.087**				0.025	-0.023	-0.089**	-0.104**
				(0.040)				(0.040)	(0.041)	(0.042)	(0.042)
Rural school '17				-0.064				-0.014	-0.003	-0.031	-0.033
				(0.094)				(0.077)	(0.077)	(0.077)	(0.077)
Northern region '13				0.025				-0.031	-0.035	-0.013	-0.026
				(0.108)				(0.112)	(0.112)	(0.113)	(0.114)
Central region '13				0.131*				0.106	0.101	0.076	0.058
				(0.075)				(0.075)	(0.075)	(0.076)	(0.076)
Southern region '13				0.202**				0.183*	0.176*	0.137	0.118
				(0.100)				(0.104)	(0.104)	(0.105)	(0.105)
Northern region '17				0.241**				0.279**	0.257**	0.239**	0.244**
				(0.113)				(0.117)	(0.117)	(0.117)	(0.117)
Central region '17				0.106				0.126	0.109	0.073	0.076
				(0.079)				(0.079)	(0.079)	(0.080)	(0.080)
Southern region '17				0.209**				0.214*	0.196*	0.148	0.151
				(0.106)				(0.110)	(0.110)	(0.111)	(0.111)
Female			1.447***					1.445***	1.443***	1.436***	1.436***
			(0.024)					(0.024)	(0.023)	(0.024)	(0.024)
Age			-0.057***					-0.042**	-0.044**	-0.032	-0.029
			(0.021)					(0.021)	(0.021)	(0.020)	(0.020)
State					0.124***				0.091***	0.012	0.020

admin '13					(0.028)				(0.027)	(0.028)	(0.028)
State					0.116***				0.068**	0.006	0.009
admin '17					(0.038)				(0.034)	(0.035)	(0.035)
School						0.552***				0.436***	0.371***
SES '13						(0.078)				(0.086)	(0.090)
School						0.345***				0.216**	0.186*
SES '17						(0.093)				(0.100)	(0.101)
Communal							-1.237***				-0.281***
HDI							(0.095)				(0.108)
Constant	-1.272***	-1.146***	-1.368***	-1.322***	-1.212***	-1.485***	-0.488***	-1.708***	-1.709***	-2.028***	-1.874***
	(0.016)	(0.015)	(0.264)	(0.024)	(0.016)	(0.026)	(0.050)	(0.258)	(0.256)	(0.253)	(0.262)
Observations	88,867	88,867	88,867	88,867	88,867	88,867	88,867	88,867	88,867	88,867	88,867

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 66: Log-odds of enrolling in a VOCATIONAL Engineering, Industry & Construction program over enrolling in any other field

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Loc	(8) Demog + Loc + Admin	(9) Demog + Loc + Admin + SES	(10) Full Model
Indigenous		0.020	0.128**	0.086	-0.011	-0.193***	-0.083	0.160***	0.147**	-0.027	-0.028
		(0.067)	(0.063)	(0.060)	(0.066)	(0.068)	(0.067)	(0.061)	(0.060)	(0.061)	(0.061)
Vocational HS '17		1.768***	1.873***	1.749***	1.684***	1.390***	1.706***	1.842***	1.762***	1.331***	1.334***
		(0.063)	(0.058)	(0.064)	(0.066)	(0.084)	(0.066)	(0.057)	(0.060)	(0.073)	(0.073)
Rural school '13				0.162***				0.308***	0.193***	0.051	0.045
				(0.056)				(0.054)	(0.054)	(0.051)	(0.051)
Rural school '17				0.189				0.115	0.162	-0.017	-0.017
				(0.220)				(0.178)	(0.178)	(0.189)	(0.189)
Northern region '13				-0.293*				-0.206	-0.244	-0.128	-0.132
				(0.161)				(0.177)	(0.178)	(0.177)	(0.177)
Central region '13				-0.045				0.001	-0.031	-0.026	-0.031
				(0.100)				(0.111)	(0.110)	(0.107)	(0.108)
Southern region '13				-0.387***				-0.335**	-0.354**	-0.364**	-0.369**
				(0.147)				(0.159)	(0.159)	(0.166)	(0.166)
Northern region '17				0.588***				0.582***	0.534***	0.479**	0.480**
				(0.194)				(0.200)	(0.198)	(0.201)	(0.201)
Central region '17				0.388***				0.394***	0.357***	0.106	0.108
				(0.122)				(0.123)	(0.123)	(0.120)	(0.120)
Southern region '17				0.316*				0.331*	0.276	-0.046	-0.044
				(0.174)				(0.173)	(0.175)	(0.189)	(0.189)
Female			-2.496***					-2.512***	-2.535***	-2.583***	-2.583***
			(0.045)					(0.045)	(0.045)	(0.046)	(0.046)
Age			0.163***					0.176***	0.166***	0.163***	0.165***
			(0.026)					(0.026)	(0.026)	(0.026)	(0.026)
State					0.290***				0.301***	0.148***	0.151***

admin '13					(0.042)				(0.040)	(0.042)	(0.042)
State					0.061				0.129*	-0.097	-0.097
admin '17					(0.080)				(0.066)	(0.070)	(0.070)
School						0.414***				0.608***	0.584***
SES '13						(0.144)				(0.142)	(0.147)
School						1.345***				1.867***	1.853***
SES '17						(0.247)				(0.218)	(0.220)
Communal							-1.381***				-0.105
HDI							(0.214)				(0.214)
Constant	-1.929***	-2.721***	-3.964***	-2.898***	-2.826***	-3.383***	-1.996***	-4.346***	-4.288***	-4.934***	-4.876***
	(0.041)	(0.029)	(0.318)	(0.056)	(0.035)	(0.073)	(0.115)	(0.325)	(0.332)	(0.331)	(0.355)
Observations	86,906	86,906	86,906	86,906	86,906	86,906	86,906	86,906	86,906	86,906	86,906

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 67: Log-odds of enrolling in an ACADEMIC Engineering, Industry & Construction program over enrolling in any other field

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Loc	(8) Demog + Loc + Admin	(9) Demog + Loc + Admin + SES	(10) Full Model
Indigenous		-0.157**	-0.123*	-0.132**	-0.088	0.052	-0.094	-0.107	-0.061	0.074	0.075
		(0.068)	(0.068)	(0.066)	(0.067)	(0.066)	(0.068)	(0.066)	(0.065)	(0.064)	(0.064)
Vocational HS '17		-1.173***	-1.236***	-1.151***	-1.101***	-0.856***	-1.137***	-1.218***	-1.150***	-0.819***	-0.820***
		(0.064)	(0.060)	(0.061)	(0.065)	(0.070)	(0.064)	(0.058)	(0.058)	(0.061)	(0.061)
Rural school '13				-0.349***				-0.317***	-0.187***	-0.075	-0.072
				(0.059)				(0.059)	(0.060)	(0.059)	(0.059)
Rural school '17				-0.049				-0.070	-0.094	0.055	0.055
				(0.112)				(0.110)	(0.111)	(0.112)	(0.113)
Northern region '13				0.168				0.205	0.197	0.140	0.143
				(0.138)				(0.141)	(0.141)	(0.142)	(0.142)
Central region '13				0.309***				0.347***	0.348***	0.313***	0.316***
				(0.101)				(0.107)	(0.108)	(0.112)	(0.112)
Southern region '13				0.185				0.211	0.218	0.163	0.167
				(0.150)				(0.154)	(0.154)	(0.152)	(0.153)
Northern region '17				0.220				0.194	0.246	0.315**	0.315**
				(0.151)				(0.154)	(0.155)	(0.153)	(0.153)
Central region '17				0.023				-0.005	0.032	0.232**	0.232**
				(0.106)				(0.110)	(0.112)	(0.115)	(0.115)
Southern region '17				0.036				0.030	0.079	0.307**	0.307**
				(0.149)				(0.151)	(0.154)	(0.150)	(0.150)
Female			-0.990***					-0.997***	-0.994***	-0.988***	-0.988***
			(0.025)					(0.025)	(0.026)	(0.025)	(0.025)
Age			-0.416***					-0.396***	-0.397***	-0.428***	-0.428***
			(0.029)					(0.029)	(0.029)	(0.030)	(0.030)
State					-0.195***				-0.195***	-0.118***	-0.120***

admin '13					(0.038)				(0.039)	(0.041)	(0.041)
State					-0.158***				-0.189***	0.055	0.054
admin '17					(0.052)				(0.051)	(0.050)	(0.050)
School						-0.035				0.109	0.120
SES '13						(0.101)				(0.101)	(0.107)
School						-1.198***				-1.636***	-1.631***
SES '17						(0.126)				(0.126)	(0.125)
Communal							0.707***				0.050
HDI							(0.106)				(0.138)
Constant	-2.037***	-1.779***	3.730***	-1.966***	-1.693***	-1.409***	-2.161***	3.294***	3.374***	4.011***	3.984***
	(0.021)	(0.018)	(0.351)	(0.030)	(0.019)	(0.030)	(0.060)	(0.350)	(0.352)	(0.362)	(0.372)
Observations	86,906	86,906	86,906	86,906	86,906	86,906	86,906	86,906	86,906	86,906	86,906

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 68: Log-odds of enrolling in a VOCATIONAL Social Sciences, Management & Law program over enrolling in any other field

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Loc	(8) Demog + Loc + Admin	(9) Demog + Loc + Admin + SES	(10) Full Model
Indigenous		0.006	-0.013	0.140*	0.008	-0.091	-0.004	0.130*	0.126*	0.020	0.022
		(0.078)	(0.078)	(0.074)	(0.078)	(0.077)	(0.078)	(0.074)	(0.074)	(0.074)	(0.074)
Vocational HS '17		1.717***	1.744***	1.731***	1.708***	1.570***	1.709***	1.758***	1.727***	1.410***	1.404***
		(0.060)	(0.058)	(0.061)	(0.063)	(0.085)	(0.064)	(0.059)	(0.061)	(0.081)	(0.081)
Rural school '13				0.114*				0.100	0.063	-0.025	-0.011
				(0.063)				(0.062)	(0.063)	(0.062)	(0.060)
Rural school '17				-0.607***				-0.590***	-0.576***	-0.665***	-0.663***
				(0.192)				(0.183)	(0.182)	(0.181)	(0.182)
Northern region '13				-0.278				-0.309	-0.331	-0.279	-0.271
				(0.222)				(0.222)	(0.223)	(0.225)	(0.225)
Central region '13				-0.127				-0.144	-0.165	-0.178	-0.166
				(0.144)				(0.142)	(0.143)	(0.142)	(0.144)
Southern region '13				-0.037				-0.063	-0.072	-0.087	-0.075
				(0.189)				(0.190)	(0.190)	(0.193)	(0.194)
Northern region '17				-0.215				-0.183	-0.187	-0.204	-0.209
				(0.248)				(0.246)	(0.246)	(0.250)	(0.250)
Central region '17				-0.338**				-0.319**	-0.323**	-0.468***	-0.473***
				(0.155)				(0.153)	(0.152)	(0.152)	(0.153)
Southern region '17				-0.556***				-0.549***	-0.558***	-0.758***	-0.762***
				(0.203)				(0.203)	(0.203)	(0.205)	(0.205)
Female			0.513***					0.518***	0.516***	0.494***	0.495***
			(0.045)					(0.045)	(0.045)	(0.044)	(0.044)
Age			0.109***					0.100***	0.096***	0.094***	0.091***
			(0.033)					(0.034)	(0.033)	(0.033)	(0.033)
State					0.067				0.125***	0.034	0.028

admin '13					(0.049)				(0.047)	(0.048)	(0.047)
State					-0.074				0.002	-0.115	-0.116
admin '17					(0.081)				(0.075)	(0.083)	(0.083)
School						0.627***				0.467***	0.529***
SES '13						(0.156)				(0.163)	(0.166)
School						0.052				1.121***	1.151***
SES '17						(0.254)				(0.264)	(0.268)
Communal							-0.145				0.249
HDI							(0.207)				(0.224)
Constant	-2.674***	-3.478***	-5.112***	-3.202***	-3.477***	-3.760***	-3.400***	-4.721***	-4.698***	-5.097***	-5.235***
	(0.040)	(0.034)	(0.408)	(0.049)	(0.037)	(0.066)	(0.116)	(0.418)	(0.416)	(0.419)	(0.443)
Observations	88,294	88,294	88,294	88,294	88,294	88,294	88,294	88,294	88,294	88,294	88,294

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 69: Log-odds of enrolling in an ACADEMIC Social Sciences, Management & Law program over enrolling in any other field

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Loc	(8) Demog + Loc + Admin	(9) Demog + Loc + Admin + SES	(10) Full Model
Indigenous		-0.335***	-0.344***	-0.274***	-0.262***	-0.036	-0.188***	-0.281***	-0.244***	-0.072	-0.070
		(0.056)	(0.056)	(0.056)	(0.056)	(0.055)	(0.056)	(0.056)	(0.055)	(0.056)	(0.056)
Vocational HS '17		-0.938***	-0.927***	-0.913***	-0.843***	-0.497***	-0.847***	-0.902***	-0.826***	-0.440***	-0.447***
		(0.051)	(0.050)	(0.051)	(0.052)	(0.054)	(0.050)	(0.051)	(0.052)	(0.054)	(0.054)
Rural school '13				-0.226***				-0.237***	-0.098*	0.058	0.082
				(0.051)				(0.051)	(0.052)	(0.052)	(0.053)
Rural school '17				-0.340***				-0.333***	-0.358***	-0.233**	-0.229**
				(0.112)				(0.110)	(0.110)	(0.106)	(0.106)
Northern region '13				0.130				0.122	0.133	0.068	0.087
				(0.119)				(0.118)	(0.118)	(0.118)	(0.118)
Central region '13				-0.122				-0.128	-0.115	-0.132	-0.106
				(0.088)				(0.088)	(0.089)	(0.091)	(0.092)
Southern region '13				0.041				0.037	0.060	0.033	0.061
				(0.130)				(0.129)	(0.129)	(0.130)	(0.131)
Northern region '17				-0.249*				-0.251*	-0.217*	-0.144	-0.148
				(0.129)				(0.129)	(0.128)	(0.125)	(0.125)
Central region '17				-0.108				-0.109	-0.079	0.116	0.115
				(0.090)				(0.090)	(0.090)	(0.092)	(0.092)
Southern region '17				-0.226*				-0.231*	-0.203	0.031	0.029
				(0.135)				(0.134)	(0.134)	(0.133)	(0.133)
Female			0.151***					0.158***	0.163***	0.189***	0.190***
			(0.025)					(0.024)	(0.025)	(0.023)	(0.022)
Age			-0.064**					-0.076***	-0.074***	-0.106***	-0.111***
			(0.026)					(0.026)	(0.026)	(0.024)	(0.024)
State					-0.305***				-0.276***	-0.144***	-0.160***

admin '13					(0.034)				(0.035)	(0.035)	(0.035)
State					-0.113**				-0.097**	0.145***	0.139***
admin '17					(0.045)				(0.045)	(0.046)	(0.045)
School						-0.373***				-0.328***	-0.230**
SES '13						(0.087)				(0.093)	(0.093)
School						-1.334***				-1.450***	-1.418***
SES '17						(0.107)				(0.117)	(0.118)
Communal							1.704***				0.392***
HDI							(0.110)				(0.133)
Constant	-1.695***	-1.465***	-0.769**	-1.332***	-1.363***	-0.937***	-2.395***	-0.486	-0.459	0.274	0.060
	(0.019)	(0.017)	(0.313)	(0.026)	(0.018)	(0.025)	(0.060)	(0.306)	(0.306)	(0.294)	(0.304)
Observations	88,294	88,294	88,294	88,294	88,294	88,294	88,294	88,294	88,294	88,294	88,294

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 70: Log-odds of enrolling in a VOCATIONAL Health & Social Services program over enrolling in any other field

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Loc	(8) Demog + Loc + Admin	(9) Demog + Loc + Admin + SES	(10) Full Model
Indigenous		0.202**	0.149*	0.206***	0.111	-0.279***	-0.023	0.170**	0.130*	-0.150**	-0.147**
		(0.079)	(0.077)	(0.073)	(0.079)	(0.078)	(0.078)	(0.074)	(0.073)	(0.074)	(0.074)
Vocational HS '17		0.783***	0.873***	0.755***	0.627***	0.085	0.660***	0.848***	0.710***	0.031	0.019
		(0.058)	(0.053)	(0.059)	(0.063)	(0.060)	(0.058)	(0.054)	(0.059)	(0.052)	(0.052)
Rural school '13				0.414***				0.391***	0.209***	-0.024	-0.007
				(0.056)				(0.057)	(0.057)	(0.055)	(0.055)
Rural school '17				-0.224*				-0.187	-0.128	-0.414***	-0.412***
				(0.133)				(0.125)	(0.112)	(0.103)	(0.103)
Northern region '13				0.104				0.039	0.006	0.171	0.182
				(0.182)				(0.183)	(0.185)	(0.194)	(0.194)
Central region '13				-0.042				-0.083	-0.133	-0.142	-0.121
				(0.118)				(0.114)	(0.114)	(0.112)	(0.113)
Southern region '13				0.116				0.075	0.043	0.092	0.114
				(0.157)				(0.161)	(0.163)	(0.170)	(0.171)
Northern region '17				-0.436**				-0.380*	-0.513**	-0.664***	-0.672***
				(0.207)				(0.201)	(0.201)	(0.216)	(0.216)
Central region '17				0.120				0.166	0.078	-0.387***	-0.397***
				(0.127)				(0.120)	(0.121)	(0.116)	(0.116)
Southern region '17				-0.193				-0.193	-0.289*	-0.942***	-0.951***
				(0.172)				(0.172)	(0.175)	(0.178)	(0.179)
Female			1.855***					1.856***	1.848***	1.828***	1.828***
			(0.043)					(0.043)	(0.044)	(0.041)	(0.041)
Age			0.350***					0.353***	0.336***	0.328***	0.324***
			(0.029)					(0.029)	(0.029)	(0.028)	(0.028)
State					0.454***				0.439***	0.188***	0.181***

admin '13					(0.047)				(0.045)	(0.042)	(0.042)
State					0.289***				0.291***	-0.091*	-0.093*
admin '17					(0.066)				(0.061)	(0.054)	(0.054)
School						0.960***				0.796***	0.877***
SES '13						(0.121)				(0.129)	(0.131)
School						2.613***				3.379***	3.434***
SES '17						(0.164)				(0.167)	(0.170)
Communal							-2.756***				0.345*
HDI							(0.180)				(0.191)
Constant	-2.614***	-2.915***	-8.516***	-2.933***	-3.157***	-4.393***	-1.492***	-8.557***	-8.492***	-9.597***	-9.792***
	(0.030)	(0.035)	(0.356)	(0.051)	(0.038)	(0.062)	(0.095)	(0.359)	(0.362)	(0.353)	(0.371)
Observations	88,577	88,577	88,577	88,577	88,577	88,577	88,577	88,577	88,577	88,577	88,577

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 71: Log-odds of enrolling in an ACADEMIC Health & Social Services program over enrolling in any other field

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Commune HDI	(7) Demog + Loc	(8) Demog + Loc + Admin	(9) Demog + Loc + Admin + SES	(10) Full Model
Indigenous		0.145**	0.086	-0.014	0.154***	0.134**	0.098*	-0.059	-0.043	-0.011	-0.013
		(0.057)	(0.057)	(0.058)	(0.057)	(0.057)	(0.059)	(0.058)	(0.058)	(0.058)	(0.058)
Vocational HS '17		-1.385***	-1.355***	-1.381***	-1.367***	-1.334***	-1.412***	-1.345***	-1.313***	-1.167***	-1.161***
		(0.045)	(0.042)	(0.044)	(0.046)	(0.049)	(0.046)	(0.040)	(0.042)	(0.044)	(0.044)
Rural school '13				-0.204***				-0.278***	-0.223***	-0.206***	-0.221***
				(0.050)				(0.051)	(0.052)	(0.051)	(0.052)
Rural school '17				0.139				0.190*	0.181*	0.274***	0.272**
				(0.115)				(0.111)	(0.110)	(0.105)	(0.106)
Northern region '13				0.018				-0.029	-0.023	-0.052	-0.065
				(0.124)				(0.126)	(0.126)	(0.127)	(0.127)
Central region '13				0.207**				0.183**	0.189**	0.136	0.118
				(0.087)				(0.088)	(0.088)	(0.089)	(0.090)
Southern region '13				0.230*				0.213*	0.224*	0.135	0.116
				(0.117)				(0.119)	(0.119)	(0.121)	(0.121)
Northern region '17				0.469***				0.478***	0.491***	0.531***	0.536***
				(0.130)				(0.133)	(0.133)	(0.135)	(0.135)
Central region '17				0.092				0.093	0.104	0.234**	0.236**
				(0.090)				(0.091)	(0.092)	(0.093)	(0.093)
Southern region '17				0.363***				0.358***	0.368***	0.521***	0.524***
				(0.120)				(0.122)	(0.123)	(0.125)	(0.125)
Female			1.126***					1.126***	1.128***	1.136***	1.135***
			(0.024)					(0.026)	(0.027)	(0.026)	(0.026)
Age			-0.335***					-0.314***	-0.314***	-0.315***	-0.312***
			(0.027)					(0.026)	(0.026)	(0.027)	(0.027)
State					-0.077**				-0.114***	-0.126***	-0.118***

admin '13					(0.034)				(0.034)	(0.036)	(0.037)
State					0.025				-0.034	0.087**	0.091**
admin '17					(0.042)				(0.040)	(0.042)	(0.042)
School						0.541***				0.454***	0.393***
SES '13						(0.100)				(0.102)	(0.107)
School						-0.691***				-1.050***	-1.077***
SES '17						(0.111)				(0.117)	(0.117)
Communal							-0.511***				-0.268**
HDI							(0.107)				(0.131)
Constant	-1.749***	-1.473***	1.905***	-1.714***	-1.459***	-1.473***	-1.200***	1.425***	1.446***	1.534***	1.681***
	(0.020)	(0.016)	(0.325)	(0.024)	(0.018)	(0.028)	(0.059)	(0.323)	(0.324)	(0.326)	(0.329)
Observations	88,577	88,577	88,577	88,577	88,577	88,577	88,577	88,577	88,577	88,577	88,577

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Predicted probabilities

Figure 8: Predicted Probabilities of enrolling in each selected field by indigenous status and type of high school, for women

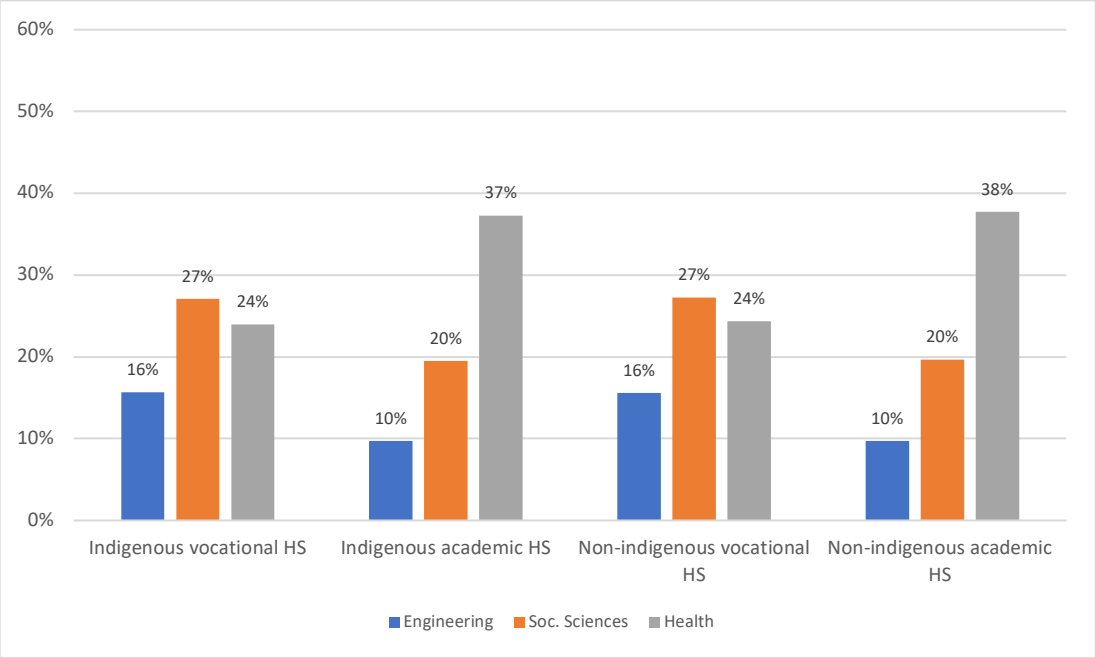


Figure 9: Predicted Probabilities of enrolling in each selected field by indigenous status and type of high school, for men

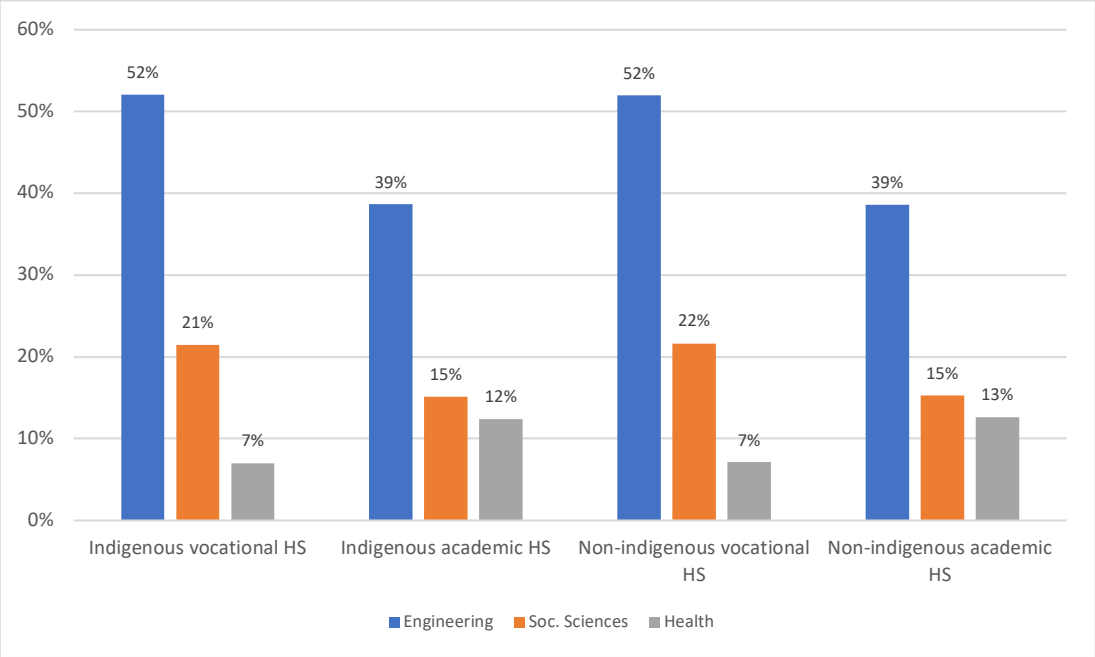


Figure 10: Predicted Probabilities of enrolling in each field and type of program by indigenous status and high school type, for women

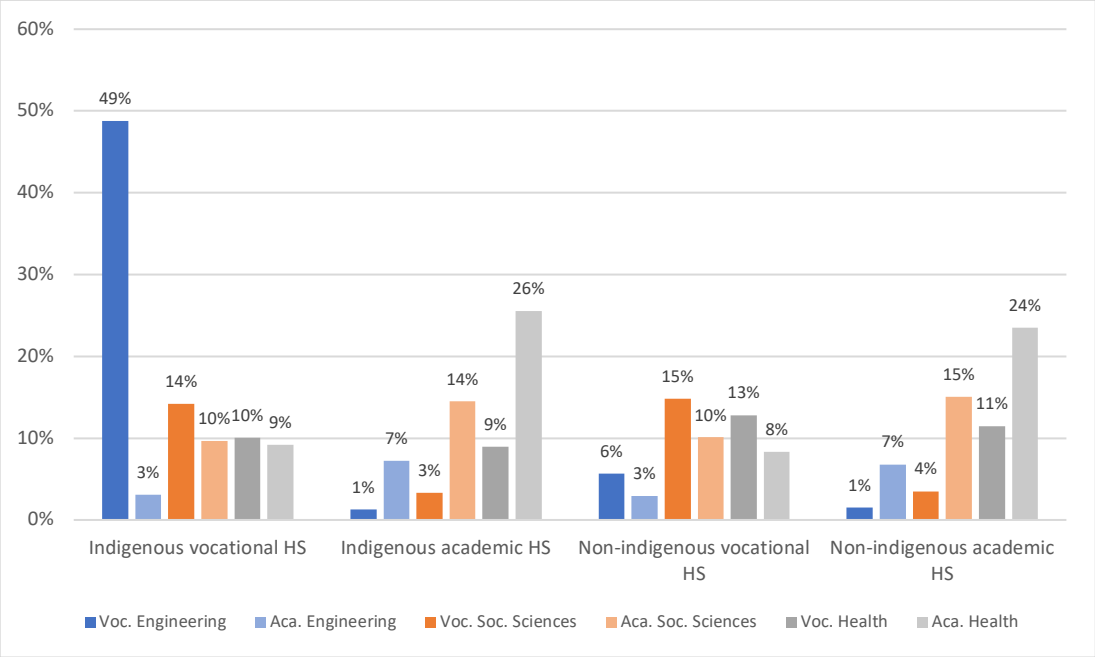


Figure 11: Predicted Probabilities of enrolling in each field and type of program by indigenous status and high school type, for men

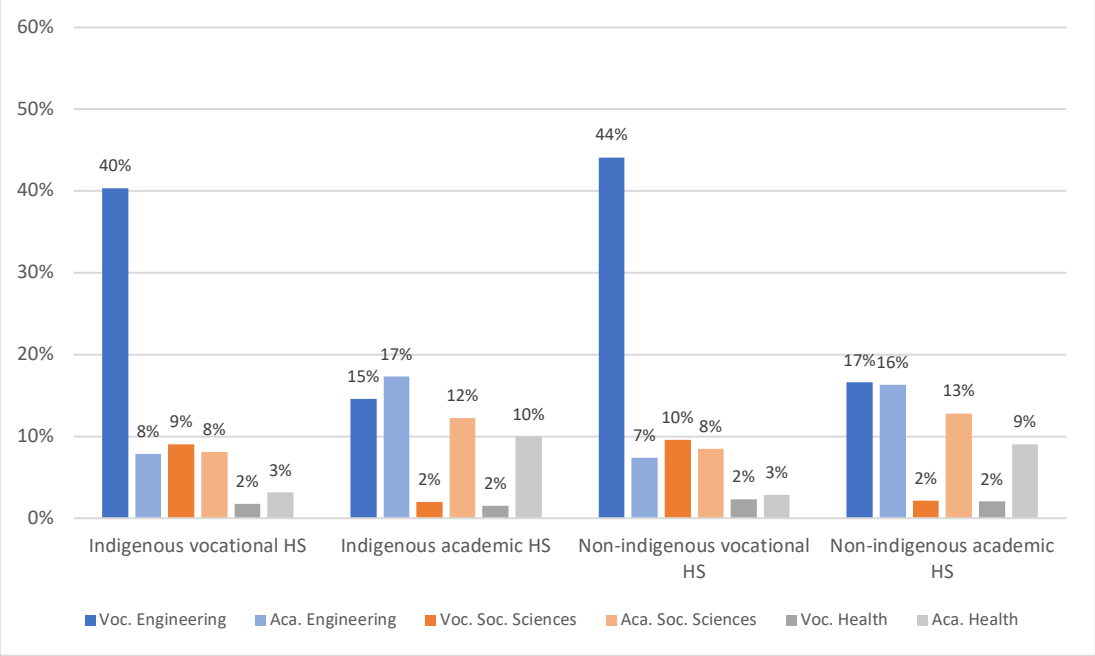


Figure 12: Predicted Probabilities of enrolling in each field by high school type, for women

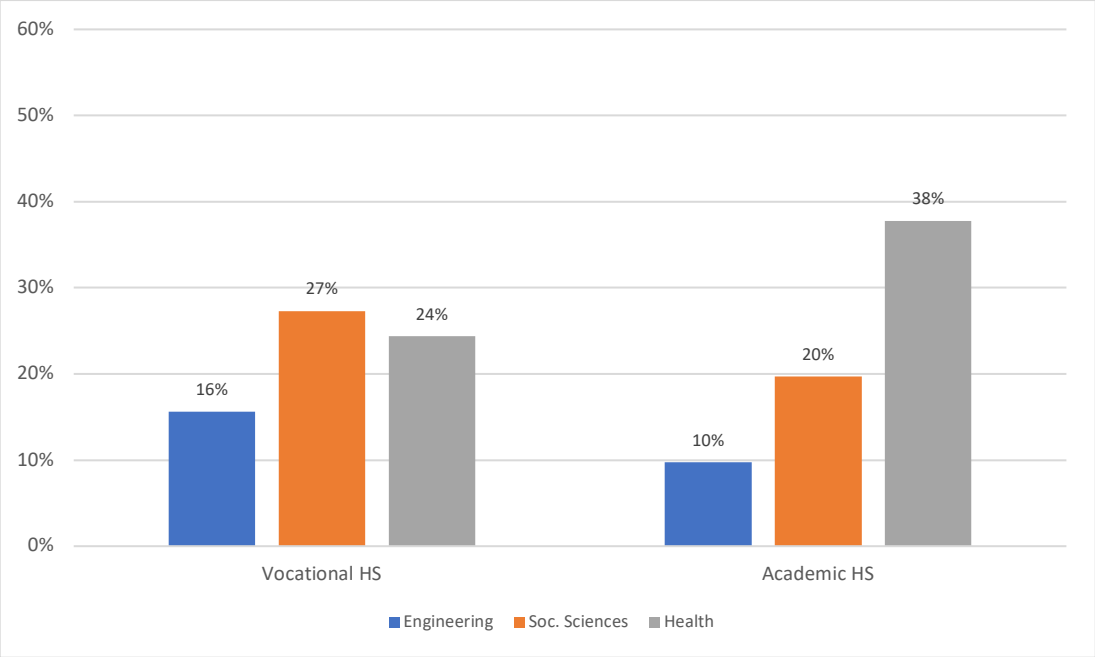


Figure 13: Predicted Probabilities of enrolling in each field by high school type, for men

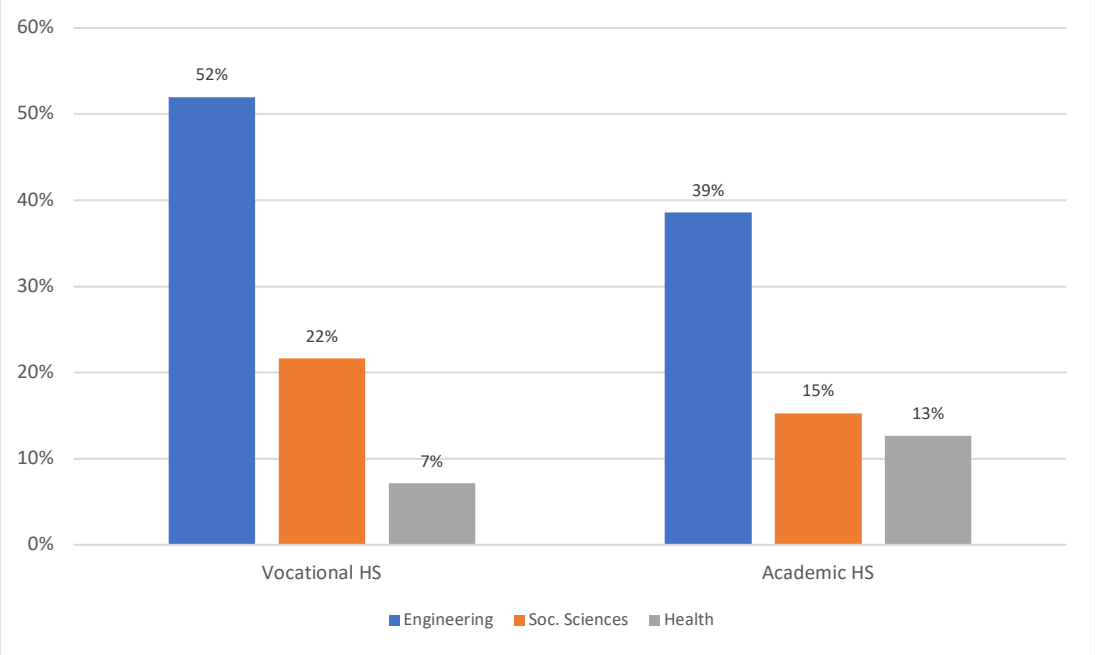


Figure 14: Predicted Probabilities of enrolling in each field and type of program by high school type, for women

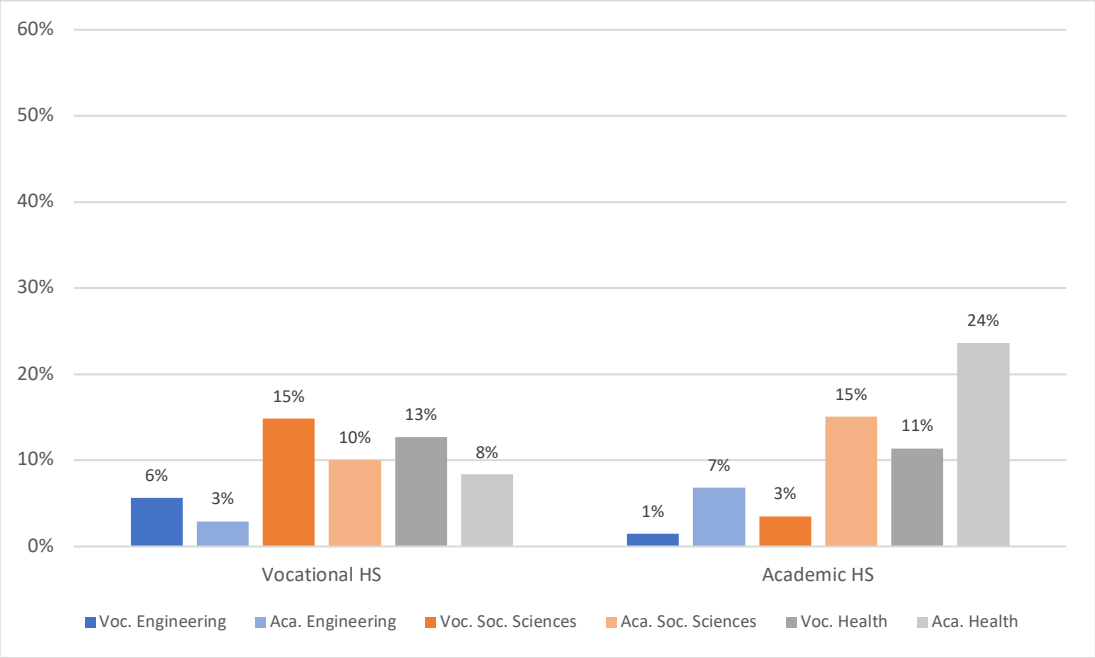
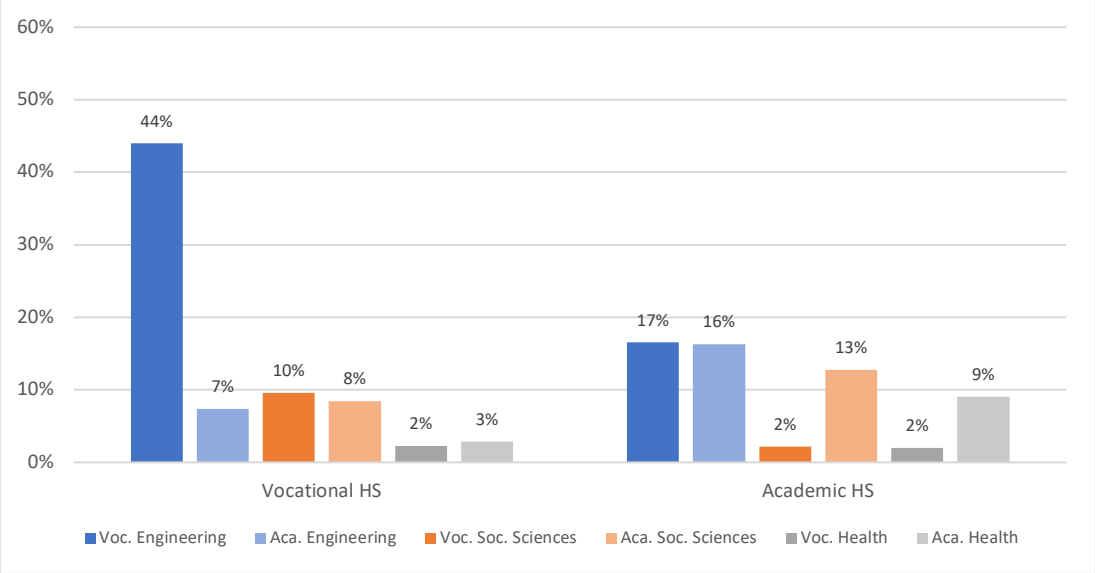


Figure 15: Predicted Probabilities of enrolling in each field and type of program by high school type, for men



Tables and illustrations for chapter 6: Educational trajectories in times of policy changes

Table 72: Each cohort's enrollment in 7th grade (original sample), high school, and higher education

	2009 cohort	2010 cohort	2011 cohort	2012 cohort
7th grade	265,672	254,637	253,768	245,673
1st high school year	235,309	220,278	221,363	216,231
4th high school year	157,903	157,073	158,670	160,346
1st higher education year	88,540	88,814	89,250	90,759

Figure 16: Each cohort's share of students reaching high school and higher education

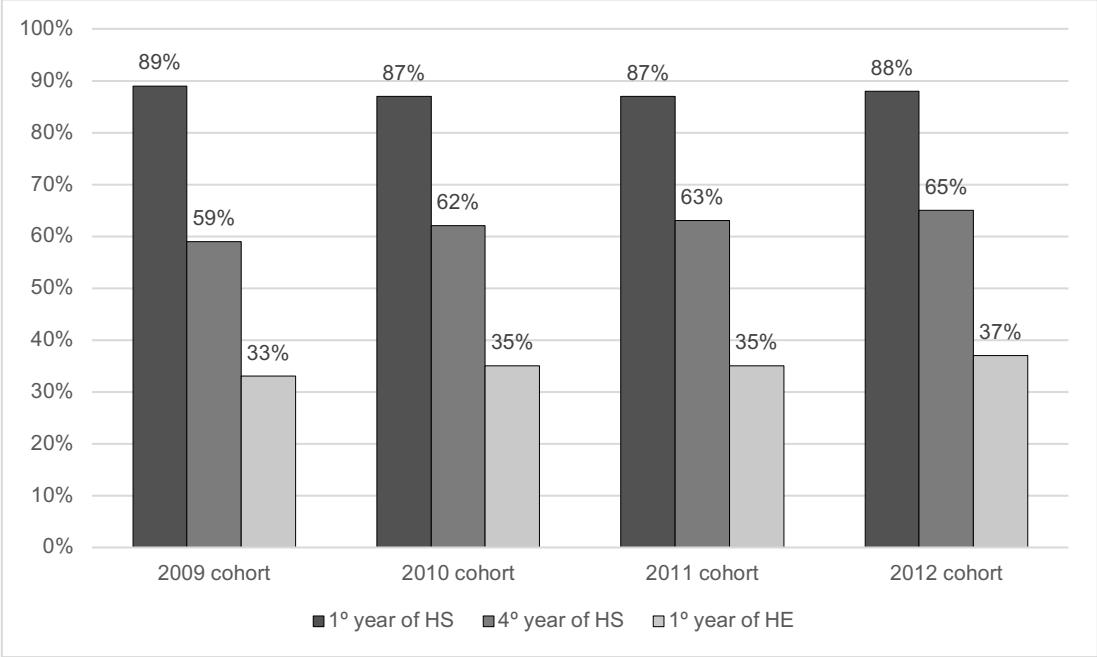


Table 73: Each cohort's enrollment in 7th grade, high school, and higher education, by indigenous status

	2009 cohort	2010 cohort	2011 cohort	2012 cohort
7th grade	265,672	254,637	253,768	245,673
indigenous	13,324	13,230	13,578	13,335
Non-indigenous	247,849	241,407	240,190	232,638
1st high school year	235,309	220,278	221,363	216,231
indigenous	11,792	11,170	11,726	11,484
Non-indigenous	223,517	209,108	209,637	204,747
4th high school year	157,903	157,073	158,670	160,346
indigenous	7,186	7,358	7,774	7,883
Non-indigenous	150,717	149,715	150,896	152,463
1st higher education year	88,540	88,814	89,250	90,759
indigenous	3,288	3,391	3,765	3,939
Non-indigenous	85,149	85,423	85,485	86,820

Figure 17: Each cohort's share of students reaching high school and higher education by indigenous status

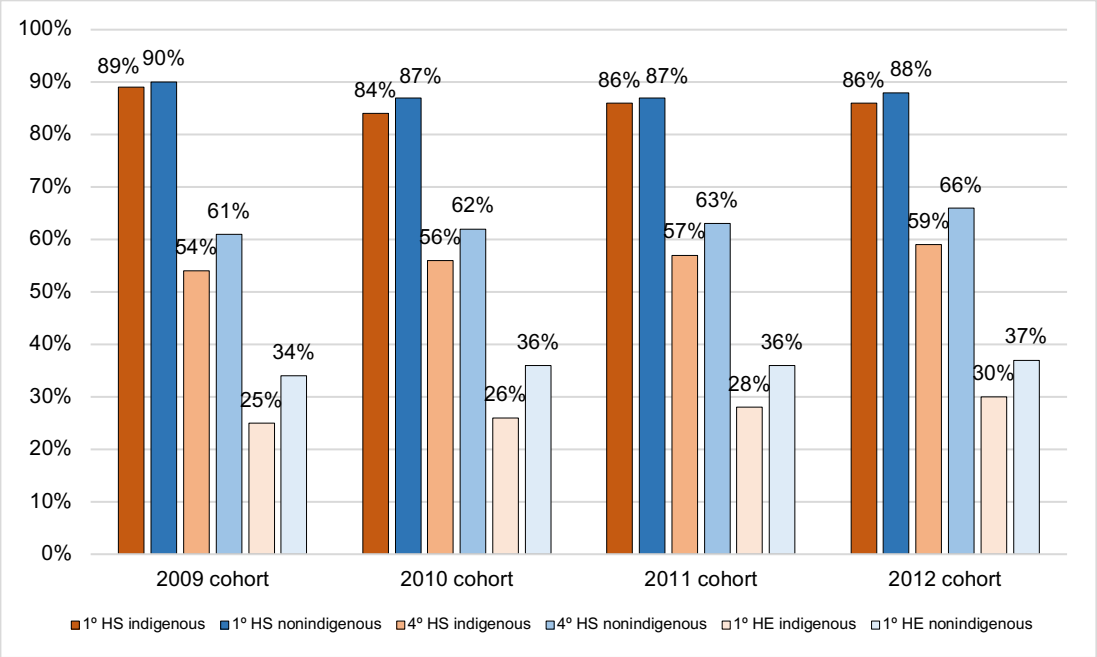


Table 74: Each cohort's high school progression by type of curriculum

	2009 cohort	2010 cohort	2011 cohort	2012 cohort
7th grade	265,672	254,637	253,768	245,673
Vocational 1º HS	68,641	60,032	58,692	53,792
Vocational 3º HS	69,867	67,732	66,386	63,838
Academic 1º HS	166,668	160,246	162,671	162,439
Academic 3º HS	101,748	102,480	104,950	108,050

Figure 18: Each cohort's high school progression by type of curriculum

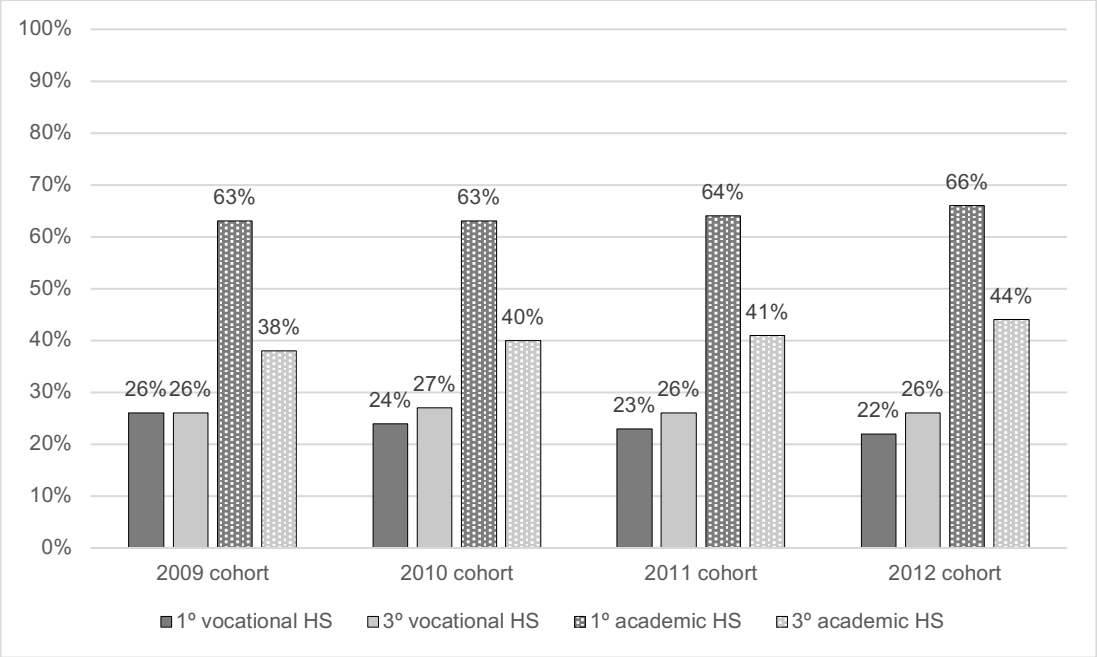


Table 75: Each cohort's high school progression by type of curriculum and indigenous status

	2009 cohort	2010 cohort	2011 cohort	2012 cohort
indigenous in 7th grade	13,324	13,230	13,578	13,335
Indigenous in voc 1º HS	5,268	4,780	4,923	4,676
Indigenous in voc 3º HS	5,031	5,193	5,233	5,167
Indigenous in aca 1º HS	6,524	6,390	6,803	6,808
Indigenous in aca 3º HS	2,989	3,012	3,315	3,424
Non-indigenous in 7th grade	247,849	241,407	240,190	232,638
Non-indigenous in voc 1º HS	63,373	55,252	53,769	49,116
Non-indigenous in voc 3º HS	64,836	62,539	61,153	58,671
Non-indigenous in aca 1º HS	160,144	153,856	155,868	155,631
Non-indigenous in aca 3º HS	98,759	99,468	101,635	104,626

Figure 19: Each cohort's high school progression by type of curriculum and indigenous status

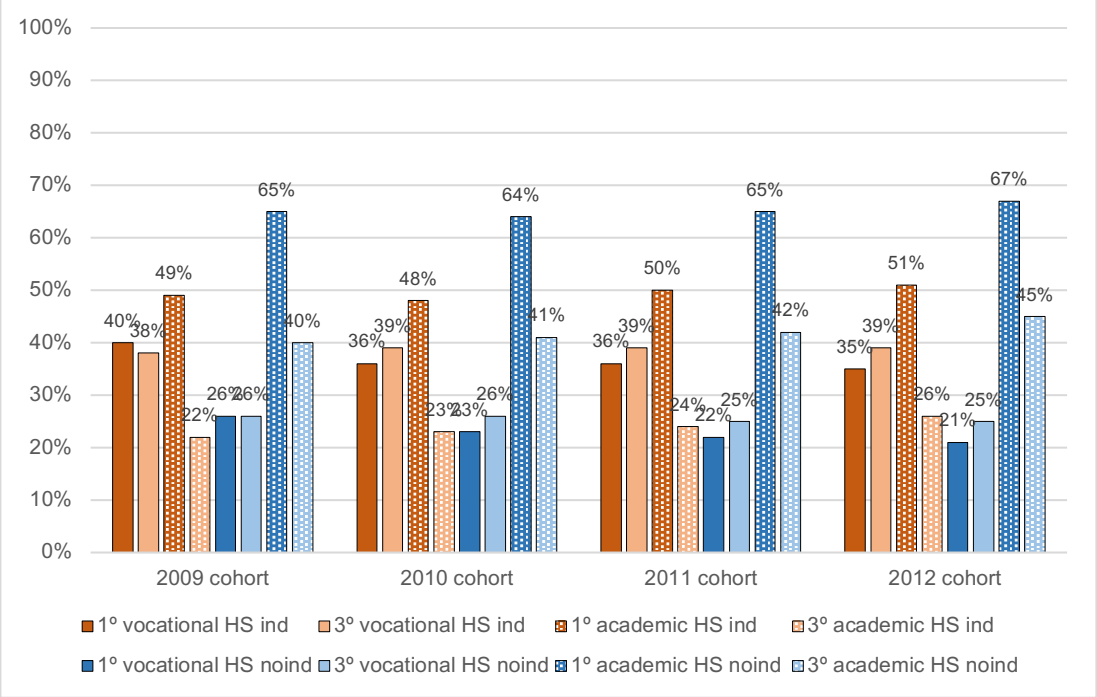


Table 76: Each cohort's higher education enrollment by type of program

	2009 cohort	2010 cohort	2011 cohort	2012 cohort
Vocational HE	37,899	36,239	37,600	37,641
Academic HE	50,641	52,575	51,650	53,118
None	73,896	72,876	74,105	74,165

Figure 20: Each cohort's higher education enrollment by type of program

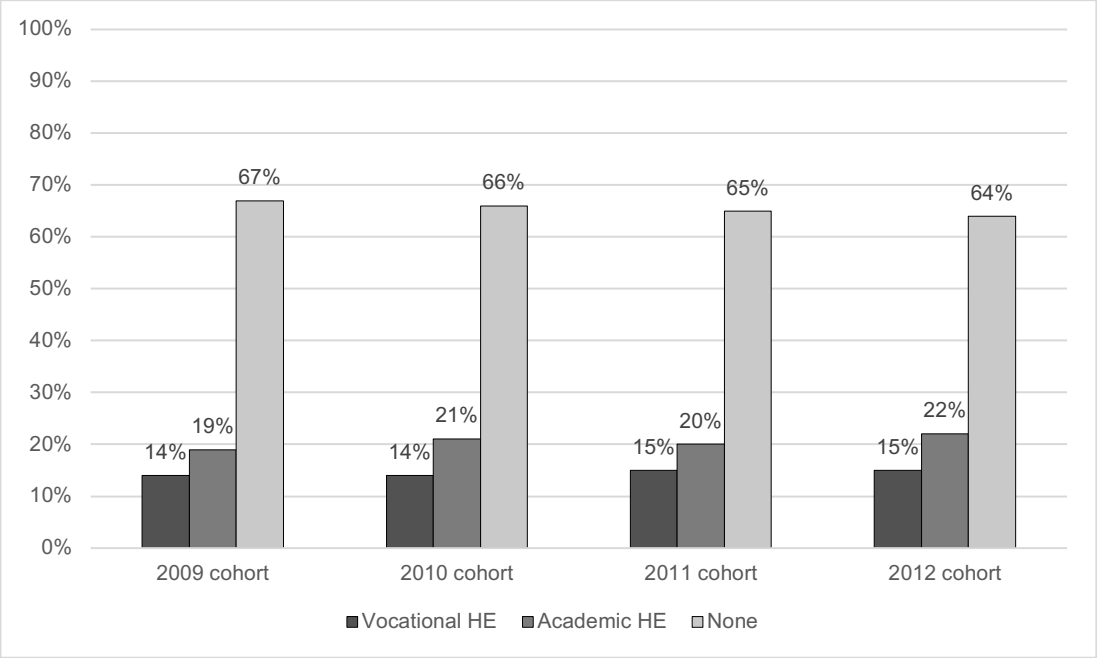


Table 77: Each cohort's higher education enrollment by type of program and indigenous status

	2009 cohort	2010 cohort	2011 cohort	2012 cohort
Indigenous vocational HE	1,907	1,879	2,053	2,172
Indigenous academic HE	1,381	1,512	1,712	1,767
Indigenous none	4,036	4,115	4,183	4,106
Non-indigenous vocational HE	35,902	34,360	35,547	35,469
Non-indigenous academic HE	49,247	51,063	49,938	51,351
Non-indigenous none	69,860	68,761	69,922	70,059

Figure 21: Each cohort's higher education enrollment by type of program and indigenous status

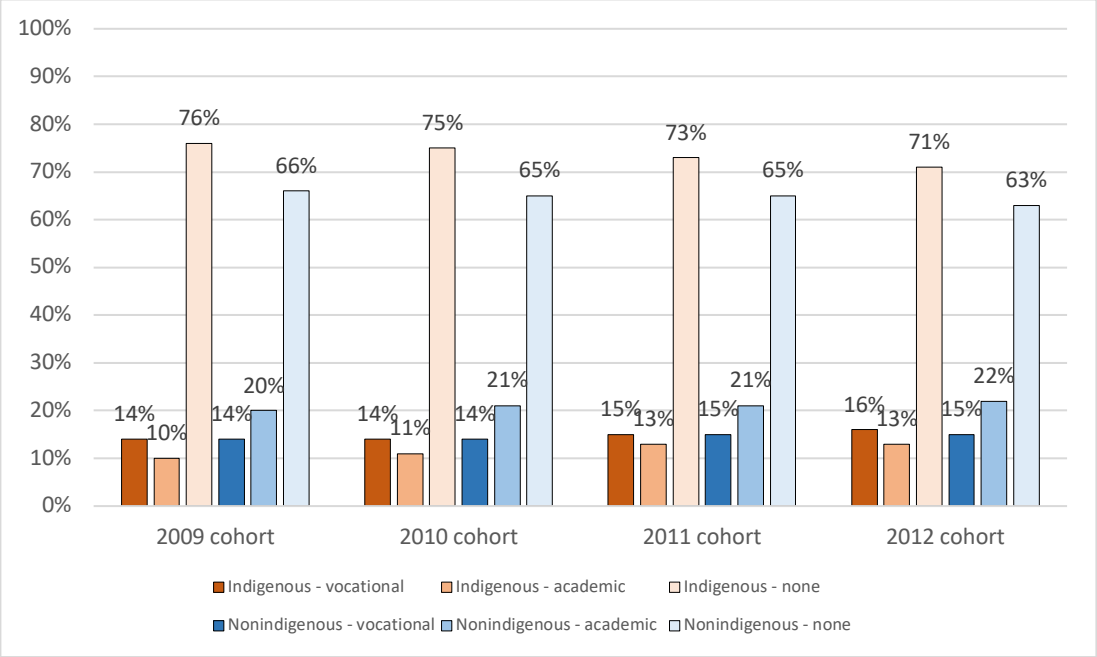


Figure 22: Total undergraduate enrollment by year and type of program

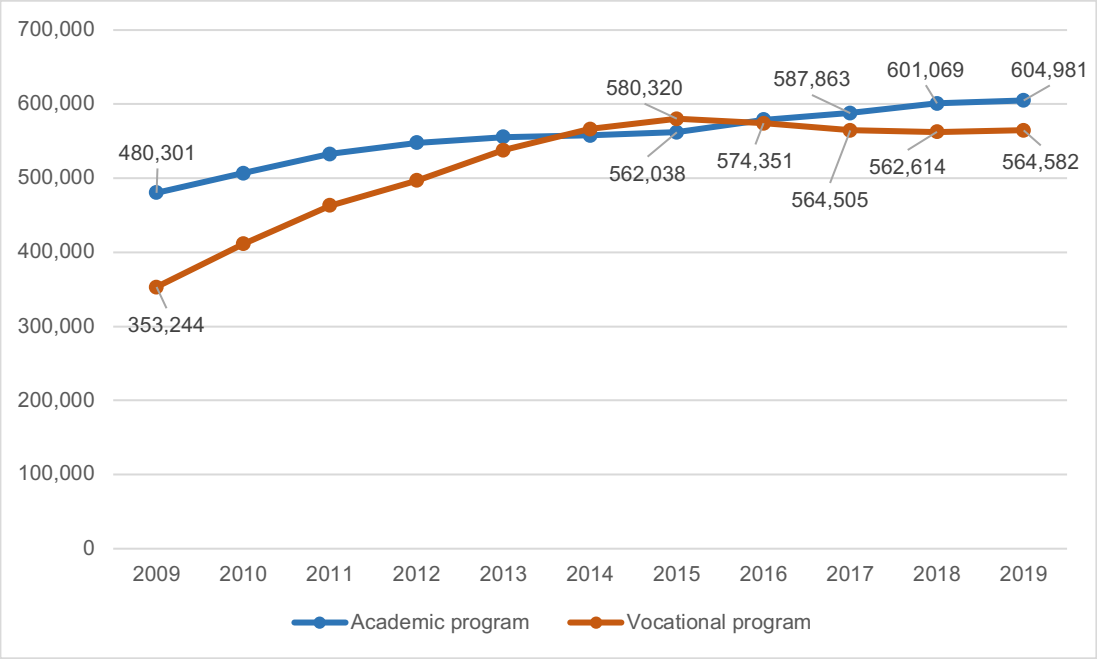


Figure 23: Total undergraduate enrollment by year and type of program (percentages)

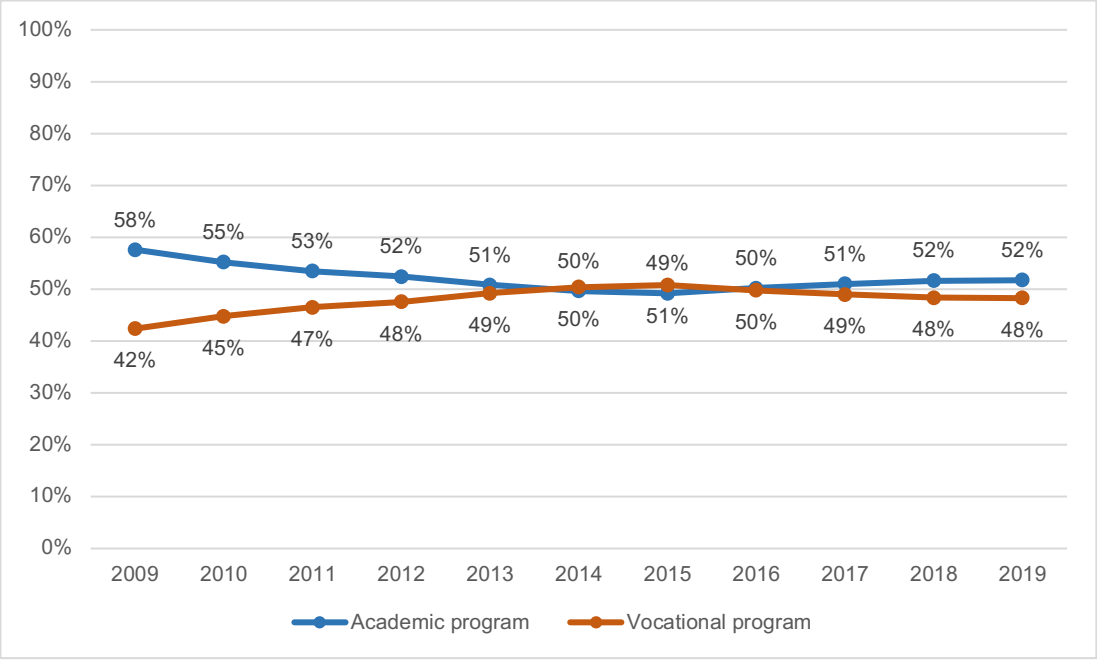


Figure 24: Total undergraduate enrollment by year and type of institution

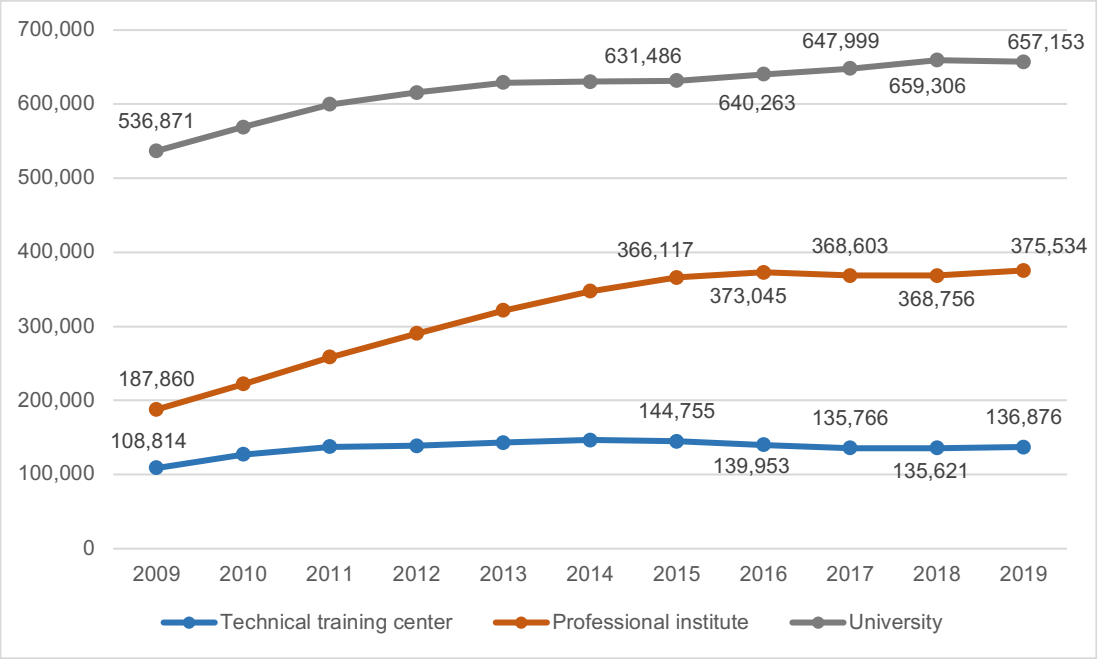


Figure 25: Total undergraduate enrollment by year and type of institution (percentages)

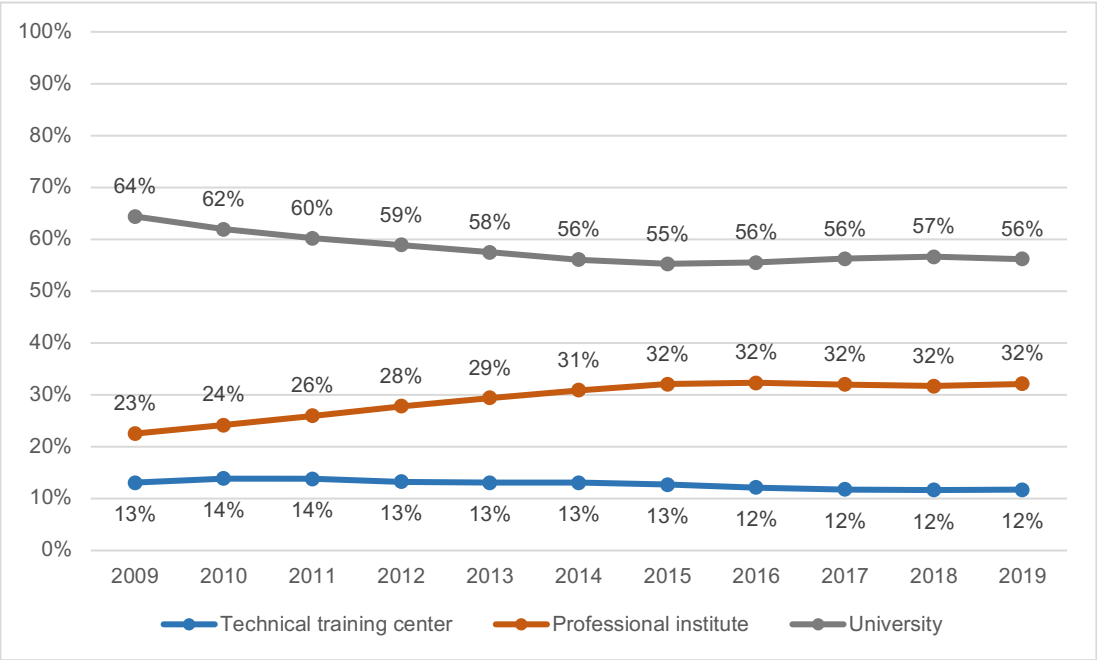


Figure 26: Total undergraduate enrollment by year and age

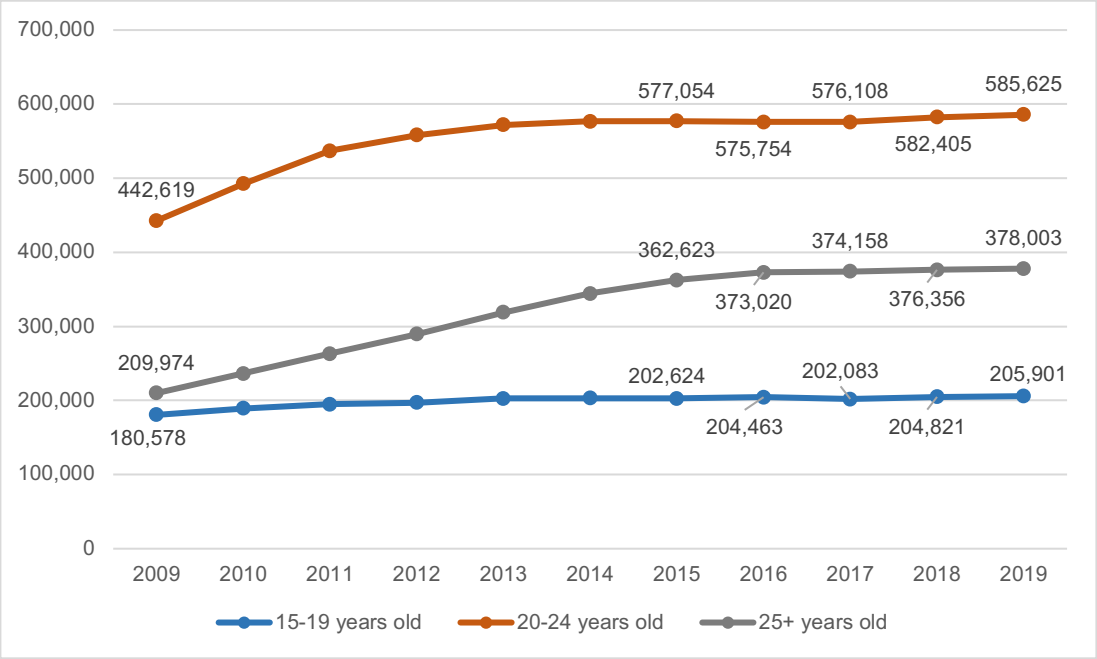


Figure 27: Total undergraduate enrollment by year and age (percentages)

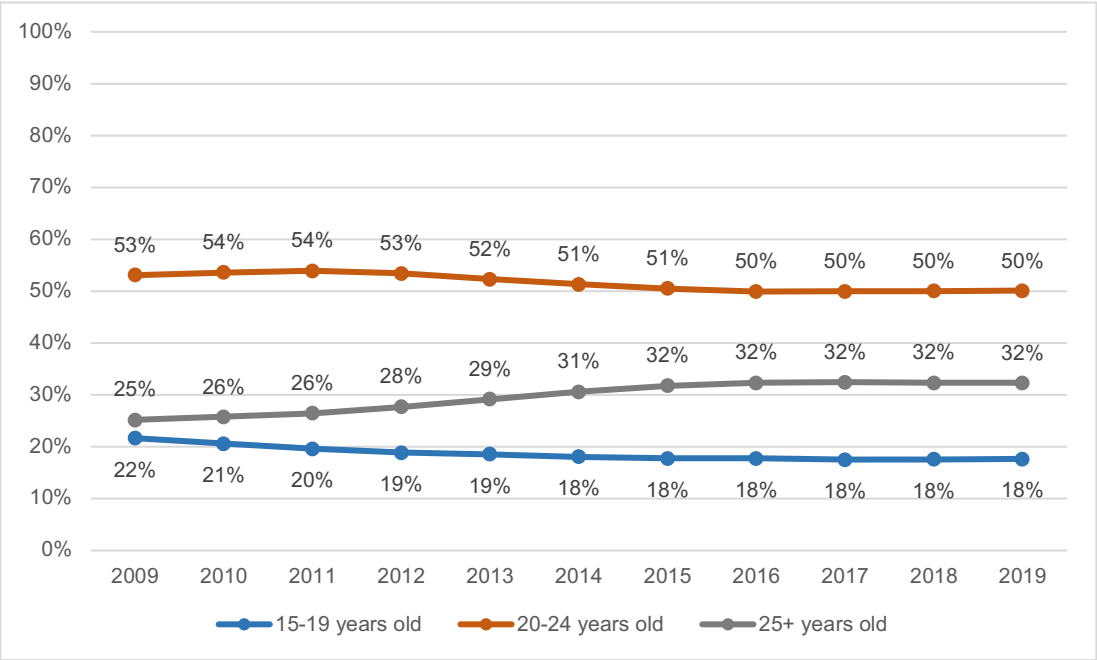


Figure 28: First year undergraduate enrollment by year and age

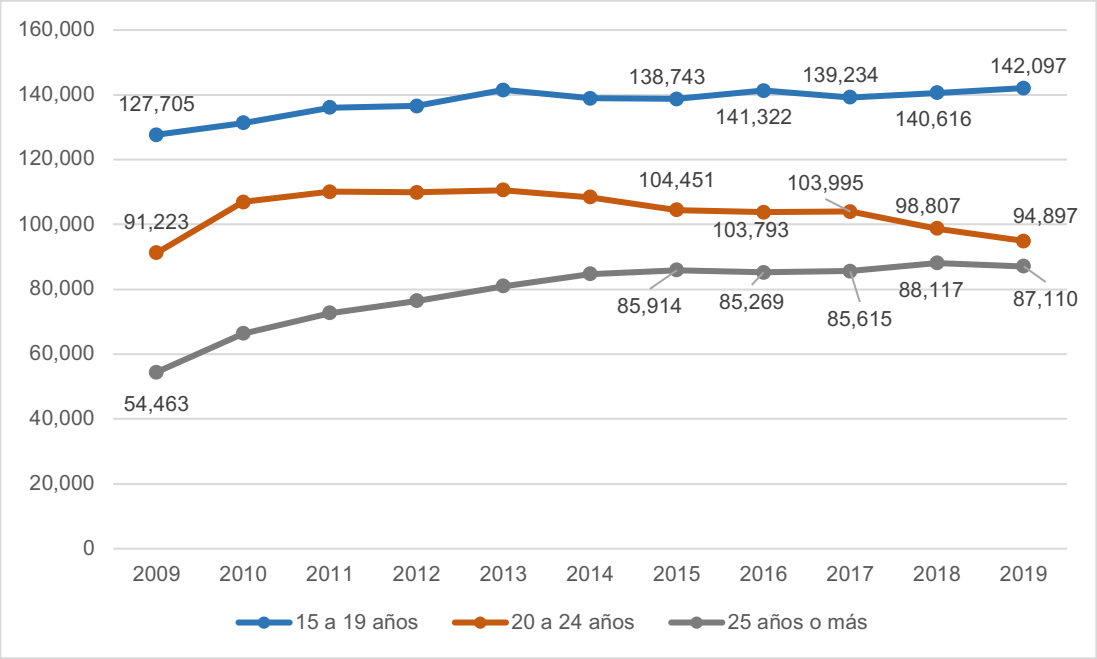


Figure 29: First year undergraduate enrollment by year and age (percentages)

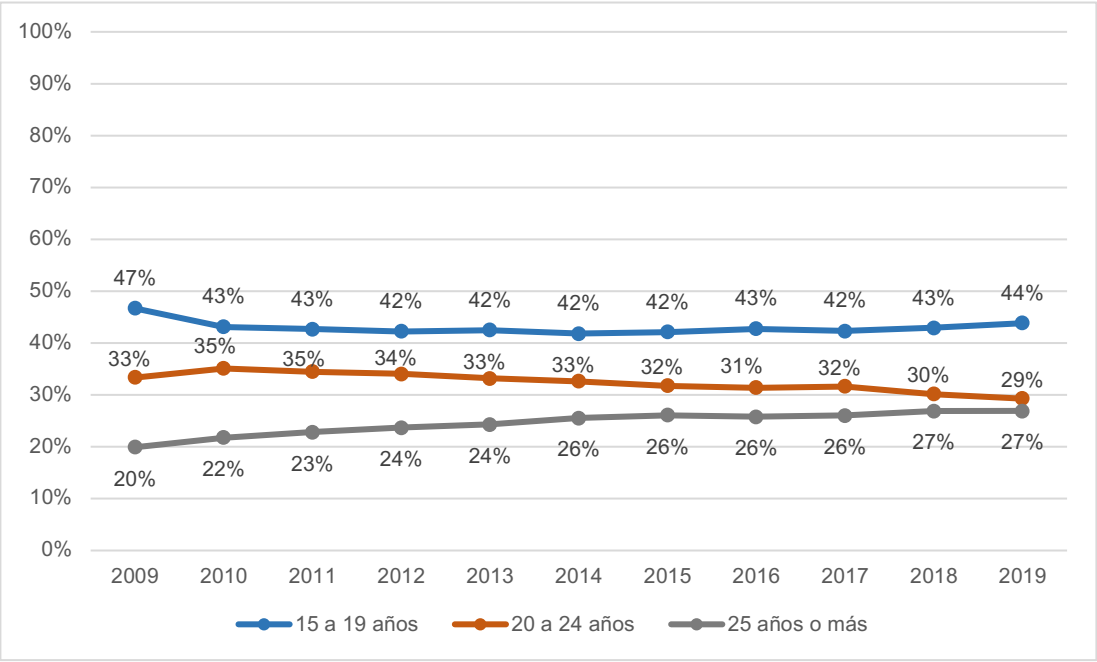


Table 78: Log-odds of enrolling in higher education over not enrolling, cohort 2009

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Communal HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Indigenous		-0.150***	-0.142***	-0.066**	-0.090***	0.094***	-0.032	-0.059*	-0.036	0.074**	0.073**
		(0.034)	(0.034)	(0.031)	(0.034)	(0.032)	(0.032)	(0.031)	(0.030)	(0.031)	(0.031)
Vocational HS '14		-1.252***	-1.249***	-1.227***	-1.134***	-0.891***	-1.192***	-1.225***	-1.117***	-0.851***	-0.850***
		(0.030)	(0.030)	(0.030)	(0.030)	(0.032)	(0.030)	(0.030)	(0.030)	(0.032)	(0.032)
Rural school '10				-0.326***				-0.322***	-0.205***	-0.126***	-0.128***
				(0.030)				(0.029)	(0.029)	(0.028)	(0.029)
Rural school '14				-0.142*				-0.132*	-0.181**	-0.023	-0.024
				(0.082)				(0.079)	(0.076)	(0.071)	(0.071)
Northern region '10				0.256***				0.244***	0.264***	0.190**	0.189**
				(0.081)				(0.081)	(0.081)	(0.082)	(0.082)
Central region '10				0.067				0.066	0.102*	0.077	0.075
				(0.056)				(0.056)	(0.055)	(0.056)	(0.056)
Southern region '10				-0.032				-0.033	-0.002	-0.035	-0.038
				(0.070)				(0.070)	(0.070)	(0.073)	(0.074)
Northern region '14				0.056				0.047	0.154*	0.181**	0.181**
				(0.092)				(0.091)	(0.089)	(0.092)	(0.092)
Central region '14				-0.062				-0.069	0.002	0.123**	0.124**
				(0.060)				(0.060)	(0.059)	(0.059)	(0.059)
Southern region '14				-0.004				-0.010	0.062	0.261***	0.262***
				(0.078)				(0.078)	(0.078)	(0.080)	(0.080)
Female			-0.116***					-0.114***	-0.105***	-0.093***	-0.093***
			(0.019)					(0.019)	(0.019)	(0.018)	(0.018)
Age			-0.271***					-0.262***	-0.250***	-0.263***	-0.262***

			(0.016)					(0.016)	(0.016)	(0.015)	(0.015)
State admin '10					-0.288***				-0.276***	-0.178***	-0.178***
					(0.021)				(0.020)	(0.020)	(0.020)
State admin '14					-0.192***				-0.218***	-0.042	-0.041
					(0.035)				(0.034)	(0.035)	(0.035)
School SES '10						-0.406***				-0.201***	-0.206***
						(0.075)				(0.076)	(0.078)
School SES '14						-1.310***				-1.320***	-1.328***
						(0.082)				(0.090)	(0.090)
Communal HDI							1.283***				-0.032
							(0.108)				(0.115)
Constant	0.187***	0.715***	4.078***	0.713***	0.843***	1.282***	0.035	3.969***	3.879***	4.425***	4.442***
	(0.021)	(0.018)	(0.197)	(0.026)	(0.019)	(0.033)	(0.056)	(0.189)	(0.188)	(0.176)	(0.192)
Observations	144,280	144,280	144,280	144,280	144,280	144,280	144,280	144,280	144,280	144,280	144,280

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 79: Log-odds of enrolling in higher education over not enrolling, cohort 2010

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Communal HDI	(7) Demog + Loc	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Indigenous		-0.160***	-0.154***	-0.120***	-0.116***	0.059*	-0.067*	-0.115***	-0.098***	0.019	0.018
		(0.036)	(0.036)	(0.033)	(0.037)	(0.035)	(0.035)	(0.032)	(0.032)	(0.032)	(0.032)
Vocational HS '15		-1.072***	-1.065***	-1.055***	-0.983***	-0.741***	-1.019***	-1.049***	-0.969***	-0.708***	-0.705***
		(0.029)	(0.029)	(0.028)	(0.029)	(0.029)	(0.028)	(0.028)	(0.029)	(0.028)	(0.027)
Rural school '11				-0.241***				-0.237***	-0.141***	-0.050*	-0.057*
				(0.030)				(0.029)	(0.029)	(0.029)	(0.030)
Rural school '15				-0.159*				-0.153*	-0.198**	-0.071	-0.073
				(0.082)				(0.080)	(0.077)	(0.070)	(0.070)
Northern region '11				0.147*				0.141*	0.156*	0.104	0.100
				(0.084)				(0.084)	(0.084)	(0.084)	(0.084)
Central region '11				-0.004				-0.002	0.032	0.021	0.014
				(0.055)				(0.056)	(0.056)	(0.056)	(0.056)
Southern region '11				0.019				0.018	0.038	0.014	0.005
				(0.075)				(0.075)	(0.074)	(0.076)	(0.076)
Northern region '15				0.249***				0.240**	0.316***	0.356***	0.358***
				(0.094)				(0.093)	(0.094)	(0.093)	(0.093)
Central region '15				-0.005				-0.014	0.032	0.151**	0.153***
				(0.060)				(0.060)	(0.060)	(0.059)	(0.059)
Southern region '15				-0.003				-0.006	0.048	0.221***	0.223***
				(0.079)				(0.079)	(0.079)	(0.080)	(0.080)
Female			-0.092***					-0.094***	-0.090***	-0.078***	-0.078***
			(0.018)					(0.018)	(0.019)	(0.017)	(0.017)
Age			-0.265***					-0.256***	-0.249***	-0.265***	-0.264***

			(0.016)					(0.016)	(0.016)	(0.015)	(0.015)
State admin '11					-0.246***				-0.236***	-0.130***	-0.128***
					(0.021)				(0.021)	(0.021)	(0.021)
State admin '15					-0.153***				-0.180***	-0.051	-0.049
					(0.033)				(0.032)	(0.031)	(0.031)
School SES '11						-0.511***				-0.405***	-0.425***
						(0.060)				(0.067)	(0.068)
School SES '15						-1.199***				-1.221***	-1.251***
						(0.089)				(0.093)	(0.094)
Communal HDI							1.033***				-0.119
							(0.102)				(0.113)
Constant	0.213***	0.651***	3.925***	0.636***	0.765***	1.181***	0.099*	3.813***	3.789***	4.355***	4.421***
	(0.019)	(0.018)	(0.197)	(0.026)	(0.019)	(0.034)	(0.053)	(0.192)	(0.192)	(0.179)	(0.196)
Observations	147,775	147,775	147,775	147,775	147,775	147,775	147,775	147,775	147,775	147,775	147,775

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 80: Log-odds of enrolling in higher education over not enrolling, cohort 2011

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Communal HDI	(7) Demog + Loc	(8) Demog + Loc + Admin	(9) Demog + Loc + Admin + SES	(10) Full Model
Indigenous		-0.125***	-0.122***	-0.093***	-0.094***	0.066**	-0.051	-0.091***	-0.078**	0.033	0.031
		(0.033)	(0.032)	(0.031)	(0.033)	(0.032)	(0.032)	(0.031)	(0.031)	(0.031)	(0.031)
Vocational HS '16		-0.871***	-0.862***	-0.858***	-0.800***	-0.594***	-0.823***	-0.850***	-0.789***	-0.561***	-0.555***
		(0.027)	(0.027)	(0.027)	(0.027)	(0.028)	(0.026)	(0.026)	(0.026)	(0.027)	(0.027)
Rural school '12				-0.163***				-0.159***	-0.086***	-0.010	-0.025
				(0.027)				(0.027)	(0.027)	(0.027)	(0.027)
Rural school '16				-0.159**				-0.151**	-0.174***	-0.071	-0.075
				(0.065)				(0.063)	(0.064)	(0.060)	(0.060)
Northern region '12				0.147*				0.137*	0.153**	0.096	0.085
				(0.076)				(0.077)	(0.077)	(0.077)	(0.077)
Central region '12				0.071				0.074	0.093*	0.097*	0.079
				(0.050)				(0.050)	(0.050)	(0.050)	(0.050)
Southern region '12				-0.033				-0.031	-0.020	-0.019	-0.040
				(0.072)				(0.072)	(0.072)	(0.073)	(0.073)
Northern region '16				0.225***				0.222**	0.267***	0.323***	0.329***
				(0.087)				(0.087)	(0.086)	(0.087)	(0.087)
Central region '16				-0.078				-0.085	-0.055	0.055	0.062
				(0.054)				(0.055)	(0.054)	(0.054)	(0.054)
Southern region '16				0.015				0.011	0.045	0.203***	0.211***
				(0.076)				(0.076)	(0.075)	(0.076)	(0.076)
Female			-0.124***					-0.125***	-0.122***	-0.110***	-0.110***
			(0.016)					(0.016)	(0.016)	(0.015)	(0.015)
Age			-0.236***					-0.227***	-0.219***	-0.233***	-0.231***

			(0.015)					(0.015)	(0.015)	(0.013)	(0.013)
State admin '12					-0.196***				-0.185***	-0.094***	-0.088***
					(0.019)				(0.019)	(0.019)	(0.019)
State admin '16					-0.091***				-0.108***	0.000	0.002
					(0.030)				(0.029)	(0.029)	(0.028)
School SES '12						-0.478***				-0.398***	-0.459***
						(0.066)				(0.070)	(0.074)
School SES '16						-0.886***				-0.982***	-1.020***
						(0.093)				(0.097)	(0.097)
Communal HDI							0.872***				-0.252**
							(0.099)				(0.111)
Constant	0.219***	0.562***	3.503***	0.551***	0.643***	1.036***	0.096*	3.389***	3.345***	3.852***	4.002***
	(0.016)	(0.016)	(0.178)	(0.025)	(0.018)	(0.033)	(0.051)	(0.173)	(0.174)	(0.161)	(0.182)
Observations	158,012	158,012	158,012	158,012	158,012	158,012	158,012	158,012	158,012	158,012	158,012

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 81: Log-odds of enrolling in a vocational higher education program over an academic program, cohort 2009

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Communa l HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Indigenous		0.378***	0.401***	0.389***	0.168***	-0.230***	0.102*	0.403***	0.278***	-0.028	-0.027
		(0.057)	(0.057)	(0.053)	(0.053)	(0.053)	(0.054)	(0.053)	(0.048)	(0.052)	(0.053)
Vocational HS '14		2.153***	2.158***	2.127***	1.983***	1.452***	2.068***	2.130***	1.956***	1.288***	1.287***
		(0.053)	(0.052)	(0.051)	(0.055)	(0.056)	(0.051)	(0.050)	(0.052)	(0.053)	(0.053)
Rural school '10				0.664***				0.694***	0.384***	0.148***	0.151***
				(0.054)				(0.054)	(0.047)	(0.048)	(0.049)
Rural school '14				0.484***				0.460***	0.502***	-0.035	-0.034
				(0.140)				(0.140)	(0.117)	(0.112)	(0.112)
Northern region '10				-0.455***				-0.445***	-0.470***	-0.221*	-0.219*
				(0.120)				(0.120)	(0.121)	(0.128)	(0.128)
Central region '10				-0.235***				-0.224***	-0.284***	-0.179**	-0.176**
				(0.082)				(0.083)	(0.082)	(0.087)	(0.088)
Southern region '10				-0.333***				-0.324***	-0.372***	-0.253**	-0.249**
				(0.106)				(0.107)	(0.106)	(0.118)	(0.119)
Northern region '14				0.105				0.132	-0.076	-0.268*	-0.269*
				(0.149)				(0.150)	(0.151)	(0.156)	(0.156)
Central region '14				0.210**				0.222**	0.073	-0.364***	-0.365***
				(0.096)				(0.097)	(0.097)	(0.095)	(0.095)
Southern region '14				-0.038				-0.019	-0.207*	-0.834***	-0.835***
				(0.121)				(0.123)	(0.122)	(0.135)	(0.135)
Female			-0.202***					-0.211***	-0.246***	-0.323***	-0.323***
			(0.027)					(0.027)	(0.029)	(0.026)	(0.026)
Age			0.373***					0.368***	0.379***	0.558***	0.557***

			(0.031)					(0.030)	(0.030)	(0.026)	(0.026)
State admin '10					0.555***				0.568***	0.315***	0.314***
					(0.036)				(0.034)	(0.034)	(0.034)
State admin '14					0.424***				0.505***	-0.050	-0.051
					(0.067)				(0.070)	(0.062)	(0.061)
School SES '10						0.413***				0.298**	0.305**
						(0.126)				(0.124)	(0.127)
School SES '14						3.459***				4.051***	4.063***
						(0.128)				(0.137)	(0.142)
Communal HDI							-2.941***				0.049
							(0.175)				(0.170)
Constant	-0.329***	-0.951***	-5.389***	-0.909***	-1.201***	-2.331***	0.599***	-5.299***	-5.537***	-8.839***	-8.862***
	(0.033)	(0.032)	(0.376)	(0.046)	(0.034)	(0.049)	(0.095)	(0.359)	(0.356)	(0.321)	(0.341)
Observations	76,133	76,133	76,133	76,133	76,133	76,133	76,133	76,133	76,133	76,133	76,133

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 82: Log-odds of enrolling in a vocational higher education program over an academic program, cohort 2010

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Communal HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Indigenous		0.275***	0.303***	0.305***	0.141**	-0.282***	0.017	0.326***	0.262***	-0.074	-0.075
		(0.064)	(0.064)	(0.058)	(0.065)	(0.060)	(0.061)	(0.058)	(0.056)	(0.056)	(0.056)
Vocational HS '15		2.095***	2.095***	2.070***	1.973***	1.423***	2.000***	2.069***	1.959***	1.313***	1.316***
		(0.050)	(0.050)	(0.049)	(0.053)	(0.052)	(0.048)	(0.049)	(0.053)	(0.049)	(0.049)
Rural school '11				0.658***				0.683***	0.441***	0.172***	0.167***
				(0.054)				(0.054)	(0.053)	(0.049)	(0.049)
Rural school '15				0.388***				0.377***	0.430***	0.032	0.031
				(0.144)				(0.144)	(0.129)	(0.126)	(0.127)
Northern region '11				-0.230**				-0.227**	-0.251**	-0.125	-0.129
				(0.110)				(0.111)	(0.114)	(0.119)	(0.119)
Central region '11				-0.066				-0.066	-0.124	-0.099	-0.105
				(0.081)				(0.082)	(0.082)	(0.084)	(0.086)
Southern region '11				-0.257**				-0.256**	-0.307***	-0.267**	-0.274**
				(0.112)				(0.113)	(0.114)	(0.121)	(0.123)
Northern region '15				-0.034				-0.002	-0.141	-0.265*	-0.263*
				(0.133)				(0.134)	(0.137)	(0.138)	(0.138)
Central region '15				0.182**				0.206**	0.128	-0.239***	-0.238***
				(0.092)				(0.093)	(0.096)	(0.091)	(0.092)
Southern region '15				-0.065				-0.044	-0.144	-0.627***	-0.625***
				(0.128)				(0.129)	(0.131)	(0.136)	(0.136)
Female			-0.208***					-0.215***	-0.235***	-0.312***	-0.312***
			(0.030)					(0.030)	(0.038)	(0.030)	(0.030)
Age			0.367***					0.375***	0.392***	0.540***	0.541***
			(0.029)					(0.028)	(0.028)	(0.025)	(0.025)

State admin '11					0.471***				0.440***	0.187***	0.189***
					(0.039)				(0.044)	(0.043)	(0.041)
State admin '15					0.348***				0.399***	0.017	0.018
					(0.065)				(0.070)	(0.059)	(0.058)
School SES '11						0.865***				0.875***	0.858***
						(0.111)				(0.142)	(0.133)
School SES '15						3.374***				3.767***	3.742***
						(0.142)				(0.147)	(0.152)
Communal HDI							-2.860***				-0.097
							(0.176)				(0.199)
Constant	-0.440***	-1.085***	-5.445***	-1.106***	-1.318***	-2.486***	0.428***	-5.576***	-5.915***	-8.832***	-8.783***
	(0.033)	(0.033)	(0.354)	(0.048)	(0.033)	(0.053)	(0.095)	(0.341)	(0.341)	(0.317)	(0.320)
Observations	78,992	78,992	78,992	78,992	78,992	78,992	78,992	78,992	78,992	78,992	78,992

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 83: Log-odds of enrolling in a vocational higher education program over an academic program, cohort 2011

	(0) Empty Model	(1) Only Indig Status	(2) Demog	(3) Location	(4) School Admin	(5) School SES	(6) Communal HDI	(7) Demog + Location	(8) Demog + Location + Admin	(9) Demog + Location + Admin + SES	(10) Full Model
Indigenous		0.184***	0.211***	0.238***	0.079	-0.297***	-0.030	0.261***	0.205***	-0.111**	-0.111**
		(0.056)	(0.056)	(0.052)	(0.055)	(0.053)	(0.053)	(0.052)	(0.050)	(0.050)	(0.050)
Vocational HS '16		2.084***	2.081***	2.061***	1.961***	1.499***	1.988***	2.056***	1.947***	1.378***	1.375***
		(0.044)	(0.044)	(0.043)	(0.047)	(0.047)	(0.043)	(0.043)	(0.046)	(0.045)	(0.046)
Rural school '12				0.556***				0.573***	0.367***	0.136***	0.142***
				(0.048)				(0.049)	(0.047)	(0.043)	(0.043)
Rural school '16				0.106				0.084	0.108	-0.210**	-0.209**
				(0.122)				(0.121)	(0.114)	(0.096)	(0.097)
Northern region '12				-0.169				-0.136	-0.156	-0.003	0.002
				(0.113)				(0.115)	(0.117)	(0.121)	(0.121)
Central region '12				-0.109				-0.105	-0.135*	-0.117	-0.109
				(0.075)				(0.075)	(0.075)	(0.076)	(0.077)
Southern region '12				-0.148				-0.153	-0.176	-0.118	-0.110
				(0.109)				(0.109)	(0.108)	(0.115)	(0.116)
Northern region '16				-0.114				-0.113	-0.231*	-0.415***	-0.418***
				(0.136)				(0.138)	(0.139)	(0.139)	(0.139)
Central region '16				0.177**				0.192**	0.117	-0.265***	-0.268***
				(0.087)				(0.088)	(0.089)	(0.084)	(0.085)
Southern region '16				-0.157				-0.134	-0.226*	-0.752***	-0.755***
				(0.122)				(0.121)	(0.123)	(0.131)	(0.132)
Female			-0.287***					-0.294***	-0.312***	-0.383***	-0.383***
			(0.027)					(0.027)	(0.033)	(0.027)	(0.027)
Age			0.406***					0.402***	0.406***	0.526***	0.525***
			(0.027)					(0.027)	(0.026)	(0.024)	(0.024)

State admin '12					0.428***				0.408***	0.170***	0.167***
					(0.035)				(0.038)	(0.038)	(0.037)
State admin '16					0.253***				0.292***	-0.038	-0.039
					(0.058)				(0.061)	(0.055)	(0.055)
School SES '12						0.731***				0.820***	0.845***
						(0.116)				(0.122)	(0.121)
School SES '16						2.862***				3.289***	3.305***
						(0.158)				(0.157)	(0.158)
Communal HDI							-2.642***				0.103
							(0.163)				(0.195)
Constant	-0.395***	-1.051***	-5.851***	-1.052***	-1.246***	-2.360***	0.340***	-5.810***	-5.977***	-8.502***	-8.563***
	(0.032)	(0.031)	(0.327)	(0.046)	(0.031)	(0.051)	(0.087)	(0.320)	(0.323)	(0.305)	(0.311)
Observations	84,023	84,023	84,023	84,023	84,023	84,023	84,023	84,023	84,023	84,023	84,023

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Predicted probabilities

Figure 30: Predicted probabilities of enrolling in higher education for each cohort by indigenous status, gender, and high school type

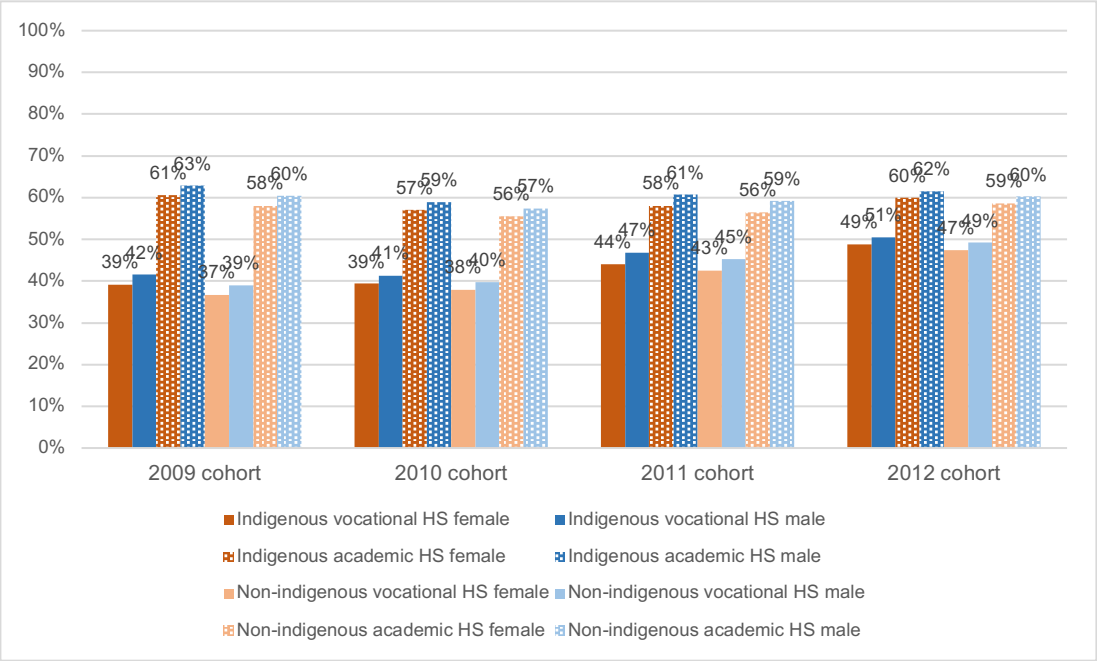


Figure 31: Predicted probabilities of enrolling in higher education for each cohort by indigenous status and high school type, for women

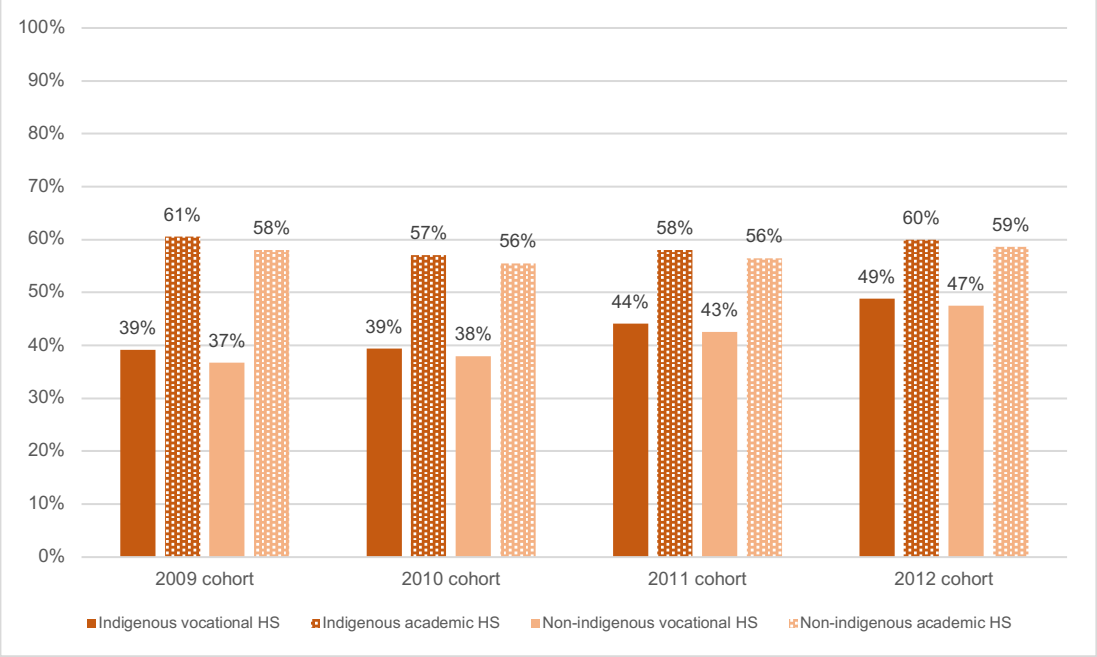


Figure 32: Predicted probabilities of enrolling in higher education for each cohort by indigenous status and high school type, for men

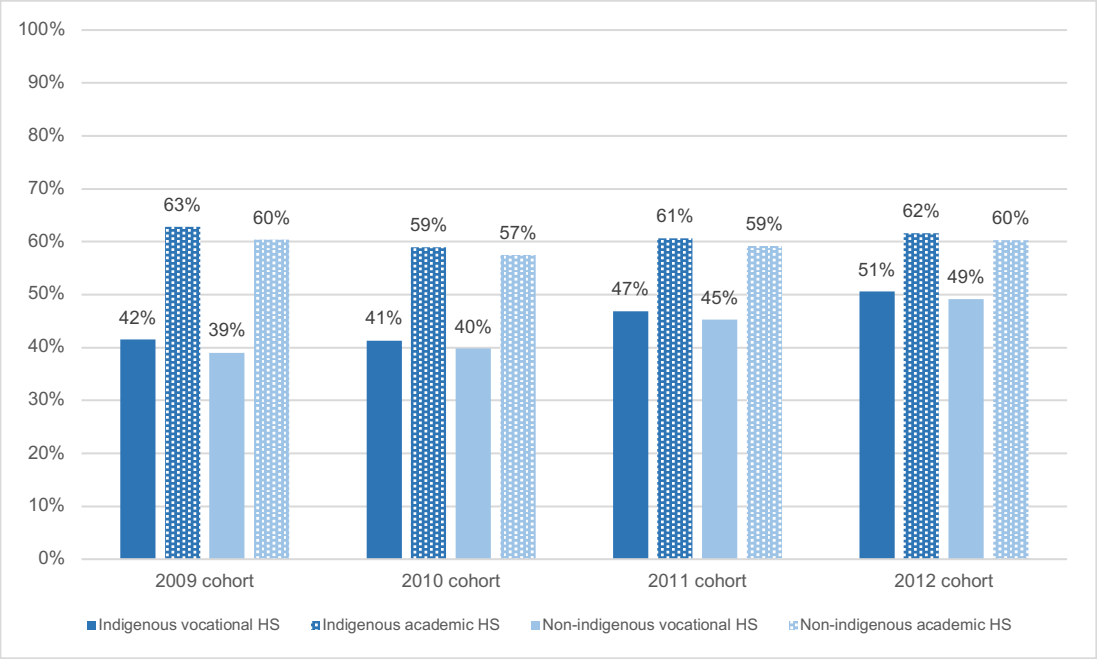


Figure 33: Predicted probabilities of enrolling in a vocational higher education program for each cohort by indigenous status, gender, and high school type

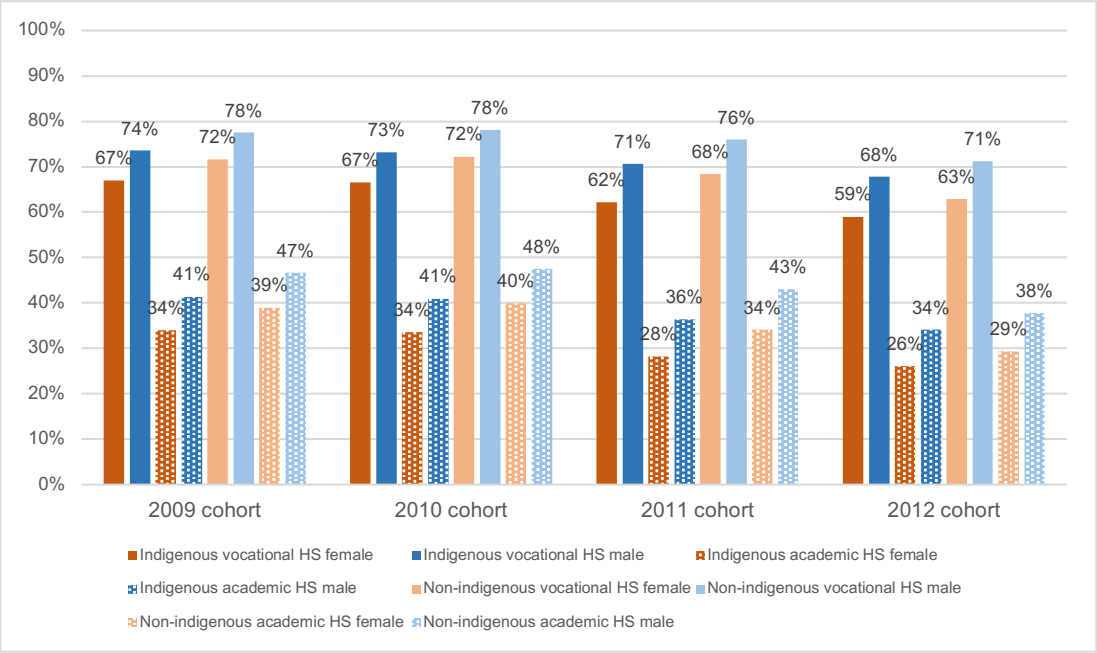


Figure 34: Predicted probabilities of enrolling in a vocational higher education program for each cohort by indigenous status and high school type, for women

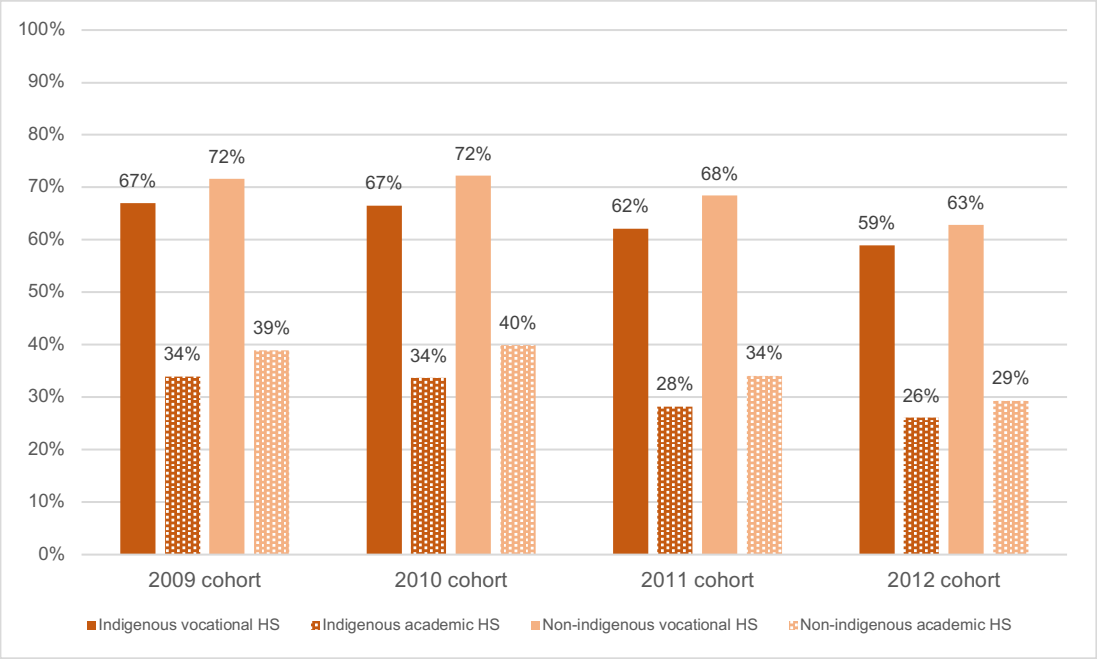
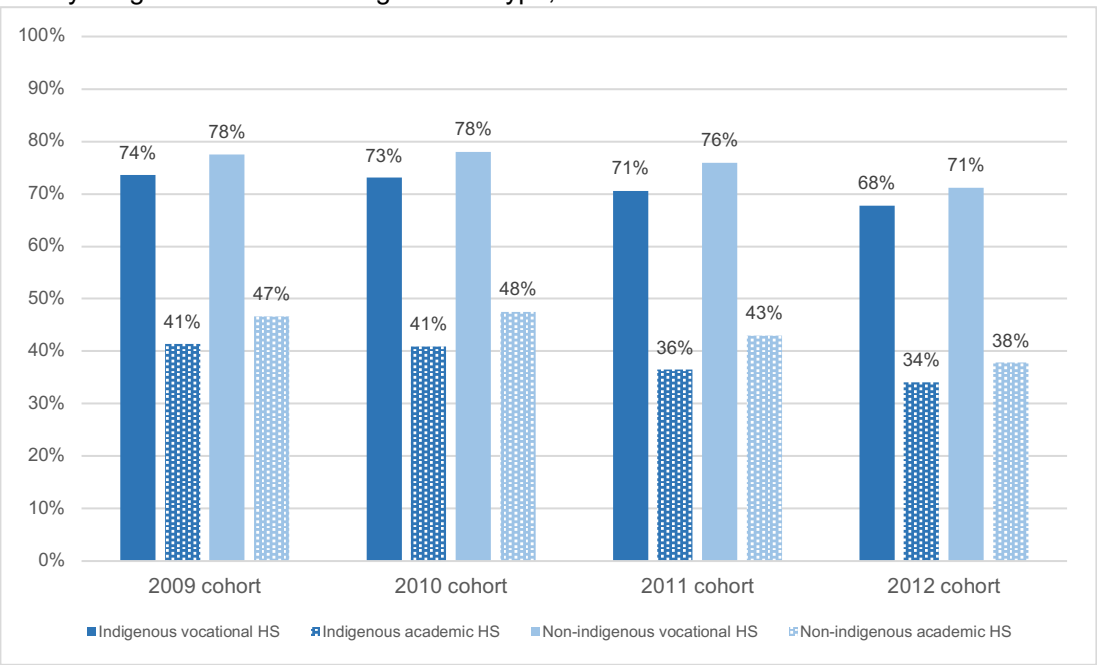


Figure 35: Predicted probabilities of enrolling in a vocational higher education program for each cohort by indigenous status and high school type, for men



BIBLIOGRAPHY

Alvarado-Urbina, A., & Zapata-Sepúlveda, P. (2020). Niñez aymara a ojos de quienes les educan: Percepciones sobre multiculturalidad en escuelas de Arica, Chile. *Utopía y Praxis Latinoamericana*, *25*(13), 159–176.

Arellano, M., & Donoso, G. (2020). Formación Técnico Profesional en Chile: Aportes a la transformación de las personas y al desarrollo del país. In M. T. Corvera & G. Muñoz (Eds.), *Horizontes y propuestas para transformar el sistema educativo chileno* (p. https://www.bcn.cl/publicaciones/obtienearchivo?id=documentos/10221.1/78612/3/LIBRO_HORIZONTES_FINAL_5_MARZO.pdf).

Arias, E., Farías, M., González-Velosa, C., Huneeus, C., & Rucci, G. (2015). *Educación técnico-profesional en Chile*. Banco Interamericano de Desarrollo.

Arum, R., Gamoran, A., & Shavit, Y. (2007). More inclusion than diversion: Expansion, differentiation, and market structure in higher education. In *Stratification in higher education: A comparative study* (pp. 1–38). Stanford University Press.

Arzola, M. P. (2019). *Gratuidad y financiamiento de la educación superior: Cifras para el debate* (No. 174; Informe Social). Libertad y Desarrollo.

Attewell, P. (2001). The Winner-Take-All High School: Organizational Adaptations to Educational Stratification. *Sociology of Education*, *74*(4), 267–295. https://doi.org/10.2307/2673136

Ayalon, H., & Shavit, Y. (2004). Educational reforms and inequalities in Israel: The MMI hypothesis revisited. *Sociology of Education*, *77*(2), 103–120.

Baker, D., & LeTendre, G. K. (2005). *National Differences, Global Similarities: World Culture and the Future of Schooling*. Stanford University Press.

Baker, D., LeTendre, G. K., & Goesling, B. (2005). Symbiotic institutions: Changing global dynamics between family and schooling. In D. Baker & G. K. LeTendre, *National Differences, Global Similarities: World Culture and the Future of Schooling* (pp. 34–53). Stanford Social Sciences. https://books.google.com/books?id=MkmubBCnPJUC

Balibar, E., & Wallerstein, I. M. (1991). *Race, Nation, Class: Ambiguous Identities*. Verso. https://books.google.cl/books?id=HT294P8Xda8C

Behrman, J. R., Tincani, M. M., Todd, P. E., & Wolpin, K. I. (2016). Teacher quality in public and private schools under a voucher system: The case of Chile. *Journal of Labor Economics*, *34*(2), 319–362.

Bellei, C., Contreras, M., Canales, M., & Orellana, V. (2018). The Production of Socio-economic Segregation in Chilean Education: School Choice, Social Class and Market Dynamics. *Understanding School Segregation: Patterns, Causes and Consequences of Spatial Inequalities in Education*, 221–242.

Benner, A. D., & Graham, S. (2009). The transition to high school as a developmental process among multiethnic urban youth. *Child Development*, *80*(2), 356–376.

Bharadwaj, P., De Giorgi, G., Hansen, D., & Neilson, C. A. (2016). The gender gap in mathematics: Evidence from Chile. *Economic Development and Cultural Change*, *65*(1), 141–166.

Bidwell, C. E., & Kasarda, J. D. (1980). Conceptualizing and Measuring the Effects of School and Schooling. *American Journal of Education*, *88*(4), 401–430.

Blau, P. M., & Duncan, O. D. (1967). *The American occupational structure*. Wiley. https://books.google.com/books?id=14dEAAAAIAAJ

Blossfeld, H.-P., & Shavit, Y. (1991). *Persisting barriers: Changes in educational opportunities in thirteen countries* (EUI Working Paper SPS No. 92/16).

Bordón, P., Canals, C., & Mizala, A. (2020). The gender gap in college major choice in Chile. *Economics of Education Review*, *77*, 102011.

Breen, R., & Jonsson, J. O. (2000). Analyzing Educational Careers: A Multinomial Transition Model. *American Sociological Review*, *65*(5), 754–772. JSTOR. https://doi.org/10.2307/2657545

Breen, R., Luijkx, R., Müller, W., & Pollak, R. (2009). Nonpersistent Inequality in Educational Attainment: Evidence from Eight European Countries. *American Journal of Sociology*, *114*(5), 1475–1521. https://doi.org/10.1086/595951

Brinbaum, Y., & Kieffer, A. (2009). Trajectories of immigrants' children in secondary education in France: Differentiation and polarization. *Population*, *64*(3), 507–554.

Buis, M. (2011). The Consequences of Unobserved Heterogeneity in a Sequential Logit Model. *Research in Social Stratification and Mobility*, *29*, 247–262. https://doi.org/10.1016/j.rssm.2010.12.006

Byun, S., & Park, H. (2017). When different types of education matter: Effectively maintained inequality of educational opportunity in Korea. *American Behavioral Scientist*, *61*(1), 94–113.

Cabalin, C. (2012). Neoliberal education and student movements in Chile: Inequalities and malaise. *Policy Futures in Education*, *10*(2). http://pfe.sagepub.com/content/10/2/219.full.pdf+html

Cameron, S. V., & Heckman, J. J. (1998). Life cycle schooling and dynamic selection bias: Models and evidence for five cohorts of American males. *Journal of Political Economy*, *106*(2), 262–333.

Campbell, R. T. (1983). Status Attainment Research: End of the Beginning or Beginning of the End? *Sociology of Education*, *56*(1), 47–62. https://doi.org/10.2307/2112302

Campos-Martínez, J., Corbalán, F., & Inzunza, J. (2015). Mapping neoliberal reform in Chile. *Mapping Corporate Education Reform: Power and Policy Networks in the Neoliberal State. New York-London, Routledge*, 106–125.

Canales, A., & Webb, A. (2018). Educational achievement of indigenous students in Chile: School composition and peer effects. *Comparative Education Review*, *62*(2), 231–273.

Canales, M., Bellei, C., & Orellana, V. (2016). ¿Por qué elegir una escuela privada

subvencionada? Sectores medios emergentes y elección de escuela en un sistema de mercado. *Estudios Pedagógicos*, *XLII*(3), 89–109.

Carrasco, A., Bogolasky, F., Flores, C., Gutierrez, G., & San Martin, E. (2014). *Selección de estudiantes y desigualdad educacional en Chile: ¿Qué tan coactiva es la regulación que la prohíbe?* (Proyecto FONIDE No. 711286). Ministerio de Educación de Chile.

Carter, P. (2003). "'Black'" Cultural Capital, Status Positioning, and Schooling Conflicts for Low-Income African American Youth. *Social Problems*, *50*(1), 136–155. https://doi.org/10.1525/sp.2003.50.1.136

Carter, P. (2005). *Keepin' It Real: School Success Beyond Black and White*. Oxford University Press. https://books.google.com/books?id=fSPxdMDiIbEC

Carter, P. (2012). *Stubborn roots: Race, culture, and inequality in US and South African schools*. Oxford University Press.

Catalán, X. (2016). Elección de modalidad educativa en la enseñanza media y su rol en la postulación a las universidades del CRUCH. *Calidad En La Educación*, *45*, 288–320.

Collins, R. (1979). The rise of the credential system. In *The Credential society: An Historical Sociology of Education and Stratification* (pp. 90–130). Academic Press.

Concha, C. (2013). Trayectorias sociales de sujetos rurales que por primera generación acceden a la educación superior universitaria en la Región del Maule, Chile. *Sociedad Hoy*, *24*, 55–68.

Creighton, M. J., Post, D., & Park, H. (2016). Ethnic inequality in Mexican education. *Social Forces*, *94*(3), 1187–1220.

Delprato, M. (2019). Parental education expectations and achievement for Indigenous students in Latin America: Evidence from TERCE learning survey. *International Journal of Educational Development*, *65*, 10–25.

Diamond, J. B. (2006). Still Separate and Unequal: Examining Race, Opportunity, and School Achievement in "Integrated" Suburbs. *The Journal of Negro Education*, *75*(3), 495–505.

Dougherty, K. J., Lahr, H. E., & Morest, V. S. (2017). *Reforming the American community college: Promising changes and their challenges*.

Edwards, S., & Lederman, D. (1998). *The political economy of unilateral trade liberalization: The case of Chile* (No. 0898–2937). National Bureau of Economic Research.

Espinoza, O., & González, L. (2017). Access of Disadvantaged Students to Higher Education in Chile: Current Scenarios and Challenges. In M. Shah & G. Whiteford (Eds.), *Bridges, Pathways and Transitions* (pp. 103–126). Chandos Publishing. https://doi.org/10.1016/B978-0-08-101921-4.00007-5

Fernández, J. E., Peralta, C., & Sánchez, M. (2018). *¿Por qué y cómo contar? El Censo y la población indígena en Chile* (Serie Laboratorio Constitucional) [Documento de Trabajo ICSO Nº 47]. Instituto de Investigación en Ciencias Sociales - Universidad Diego Portales.

Fordham, S., & Ogbu, J. U. (1986). Black students' school success: Coping with the "burden of

‘acting white.’” *The Urban Review*, *18*(3), 176–206. https://doi.org/10.1007/BF01112192

Gamoran, A. (1987). The Stratification of High School Learning Opportunities. *Sociology of Education*, *60*(3), 135–155. https://doi.org/10.2307/2112271

Gándara, P., Alvarado, E., Driscoll, A., & Orfield, G. (2012). Building Pathways to Transfer: Community Colleges That Break the Chain of Failure for Students of Color. *Civil Rights Project/Proyecto Derechos Civiles*.

García-Peñalvo, F. J. (2019). *Women and STEM disciplines in Latin America: The W-STEM European Project*.

Gattini, C., Chavez, C., & Albers, D. (2014). *Comunas de Chile, según nivel socio-económico, de salud y desarrollo humano* [Documento de Serie Técnica]. Observatorio Chileno de Salud Pública OCHISAP.

Gerber, T. P., & Cheung, S. Y. (2008). Horizontal stratification in postsecondary education: Forms, explanations, and implications. *Annual Review of Sociology*, *34*, 299–318.

Gerber, T. P., & Schaefer, D. R. (2004). Horizontal stratification of higher education in Russia: Trends, gender differences, and labor market outcomes. *Sociology of Education*, *77*(1), 32–59.

Goldsmith, P. A. (2003). All Segregation is Not Equal: The Impact of Latino and Black School Composition. *Sociological Perspectives*, *46*(1), 83–105. https://doi.org/10.1525/sop.2003.46.1.83

González-Velosa, C., Rucci, G., Sarzosa, M., & Urzúa, S. (2015). *Returns to higher education in Chile and Colombia* (IDB Working Paper Series IDB-WP-587). Inter-American Development Bank.

Goyette, K., & Mullen, A. (2006). Who studies the arts and sciences? Social background and the choice and consequences of undergraduate field of study. *The Journal of Higher Education*, *77*(3), 497–538.

Hall, G., & Patrinos, H. A. (2005). *Pueblos indígenas, pobreza y desarrollo humano en América Latina: 1994-2004*. Banco Mundial Washington DC.

Hallinan, M. T. (1996). Track Mobility in Secondary School. *Social Forces*, *74*(3), 983–1002. https://doi.org/10.2307/2580389

Hannum, E., Liu, R., & Alvarado-Urbina, A. (2017). Evolving approaches to the study of childhood poverty and education. *Comparative Education*, *53*(1), 81–114. https://doi.org/10.1080/03050068.2017.1254955

Hernández, M., & Raczynski, D. (2014). Jóvenes de origen rural: Aspiraciones y tensiones en la transición hacia la enseñanza secundaria. *Revista Iberoamericana de Evaluación Educativa*, *7*(3), 71–87.

Hout, M. (2006). Maximally Maintained Inequality and Essentially Maintained Inequality. *Sociological Theory and Methods*, *21*(2), 237–252. https://doi.org/10.11218/ojjams.21.237

Iannelli, C., Gamoran, A., & Paterson, L. (2018). Fields of study: Horizontal or vertical

differentiation within higher education sectors? *Research in Social Stratification and Mobility*, *57*, 11–23. https://doi.org/10.1016/j.rssm.2018.06.004

ICHEM. (2019). *Índice de Desarrollo Regional—IDERE 2019*. Universidad Autónoma de Chile.

ICHEM. (2020). *Índice de Desarrollo Comunal. Chile 2020*. Universidad Autónoma de Chile.

ILO. (2016). *Women at Work. Trends 2016*. International Labor Organization.

INE. (2018). *Sintesis de Resultados CENSO 2017*. Instituto Nacional de Estadisticas. http://www.censo2017.cl/descargas/home/sintesis-de-resultados-censo2017.pdf

International Labour Organization (ILO). (1989). *Indigenous and Tribal Peoples Convention, 1989 (No. 169): Convention concerning Indigenous and Tribal Peoples in Independent Countries*. http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312314:NO

Izaguirre, A., & Di Capua, L. (2020). Exploring peer effects in education in Latin America and the Caribbean. *Research in Economics*, *74*, 73–86.

Jarpa-Arriagada, C. G., & Rodríguez-Garcés, C. (2017). Segmentación y exclusión en Chile: El caso de los Jóvenes Primera Generación en Educación Superior. *Revista Latinoamericana de Ciencias Sociales, Niñez y Juventud*, *15*(1), 327–343.

Jencks, C. (1972). *Inequality: A reassessment of the effect of family and schooling in America*. Basic Books. https://books.google.com/books?id=QqAQAQAAMAAJ

Kao, G. (2004). Social capital and its relevance to minority and immigrant populations. *Sociology of Education*, *77*(2), 172–175.

Kao, G., & Thompson, J. S. (2003). Racial and Ethnic Stratification in Educational Achievement and Attainment. *Annual Review of Sociology*, *29*, 417–442.

Kao, G., & Tienda, M. (1995). Optimism and achievement: The educational performance of immigrant youth. *Social Science Quarterly*, *76*(1).

Kirkeboen, L. J., Leuven, E., & Mogstad, M. (2016). Field of study, earnings, and self-selection. *The Quarterly Journal of Economics*, *131*(3), 1057–1111.

Kleinert, C., & Jacob, M. (2019). Vocational education and training in comparative perspective. In *Research Handbook on the Sociology of Education*. Edward Elgar Publishing.

Kurlaender, M. (2006). Choosing community college: Factors affecting Latino college choice. *New Directions for Community Colleges*, *2006*(133), 7–16.

Kurlaender, M., & Hibel, J. (2018). Students' educational pathways: Aspirations, decisions, and constrained choices along the education lifecourse. In *Handbook of the Sociology of Education in the 21st Century* (pp. 361–384). Springer.

Kurlaender, M., & Larsen, M. F. (2013). K–12 and postsecondary alignment: Racial/ethnic differences in freshmen course-taking and performance at California's community colleges. *Education Policy Analysis Archives/Archivos Analíticos de Políticas Educativas*, *21*, 1–25.

Larrañaga, O., Cabezas, G., & Dussaillant, F. (2014). Trayectorias educacionales e inserción laboral en la enseñanza media técnico profesional. *Estudios Públicos*, *134*, 7–58.

Lee, S. J. (2005). *Up Against Whiteness: Race, School, and Immigrant Youth*. Teachers College Press. https://books.google.com/books?id=ARZiQgAACAAJ

Levitan, J., & Post, D. (2017). Indigenous student learning outcomes and education policies in Peru and Ecuador. In *Indigenous education policy, equity, and intercultural understanding in Latin America* (pp. 27–49). Springer.

Lewis, A. E., & Diamond, J. B. (2015). *Despite the Best Intentions: How Racial Inequality Thrives in Good Schools*. Oxford University Press, Incorporated. https://books.google.com/books?id=gBJLMQAACAAJ

Litzler, E., Samuelson, C. C., & Lorah, J. A. (2014). Breaking it down: Engineering student STEM confidence at the intersection of race/ethnicity and gender. *Research in Higher Education*, *55*(8), 810–832.

Liu, R., Alvarado-Urbina, A., & Hannum, E. (2020). Differences at the Extremes? Gender, National Contexts, and Math Performance in Latin America. *American Educational Research Journal*, *57*(3), 1290–1322.

Logan, J. R., Minca, E., & Adar, S. (2012). The Geography of Inequality: Why separate means unequal in American public schools. *Sociology of Education*, *85*(3), 287–301. https://doi.org/10.1177/0038040711431588

López, L. E., & Machaca, G. (2008). Acceso indígena a la educación superior en Chile y Perú: Un desafío para las políticas de equidad. *ISEES: Inclusión Social y Equidad En La Educación Superior*, *2*, 13–62.

Loveman, M. (2014). *National colors: Racial classification and the state in Latin America*. Oxford University Press,.

Lucas, S. R. (2001). Effectively maintained inequality: Education transitions, track mobility, and social background effects. *American Journal of Sociology*, *106*(6), 1642–1690.

Lucas, S. R., Fucella, P. N., & Berends, M. (2011). A neo-classical education transitions approach: A corrected tale for three cohorts. *Research in Social Stratification and Mobility*, *29*(3), 263–285.

Lucas, S. R., Molina, S. J., & Towey, J. M. (2020). Race/Ethnicity over Fifty Years of Structural Differentiation in K–12 Schooling: Period-Specific and Life-Course Perspectives. *Annual Review of Sociology*, *46*, 355–378.

Maple, S. A., & Stage, F. K. (1991). Influences on the choice of math/science major by gender and ethnicity. *American Educational Research Journal*, *28*(1), 37–60.

Mare, R. D. (1981). Change and Stability in Educational Stratification. *American Sociological Review*, *46*(1), 72–87. https://doi.org/10.2307/2095027

Martel, M. (2019). *Understansding Intercultural Bilingual Education for education equity among indigenous students in Ecuador and Peru* [Doctoral Dissertation]. Columbia University.

Massey, D. S., Charles, C. Z., Lundy, G. F., & Fischer, M. J. (2003). *The Source of the River:*

The Social Origins of Freshmen at America's Selective Colleges and Universities. Princeton University Press. https://books.google.com/books?id=SWDp870mk_AC

McEwan, P. J. (2004). The indigenous test score gap in Bolivia and Chile. *Economic Development and Cultural Change*, *53*(1), 157–190.

McGrady, P. B., & Reynolds, J. R. (2012). Racial Mismatch in the Classroom. *Sociology of Education*, *86*(1), 3–17. https://doi.org/10.1177/0038040712444857

MDS. (2018). *Pueblos Indígenas. Síntesis de Resultados CASEN 2017*. Ministerio de Desarrollo Social.

Mickelson, R. A. (1990). The Attitude-Achievement Paradox Among Black Adolescents. *Sociology of Education*, *63*(1), 44–61. https://doi.org/10.2307/2112896

MINEDUC. (2020). *Bases de datos para investigadores*. http://datosabiertos.mineduc.cl/

Ley 20.248, (2008).

Ley 20.370, (2009).

Ley 20.845, (2015).

Ley 19.253, 19253 Ley (1993). http://bcn.cl/2lqsf

Mizala, A., & Torche, F. (2012). Bringing the schools back in: The stratification of educational achievement in the Chilean voucher system. *International Journal of Educational Development*, *32*(1), 132–144. https://doi.org/10.1016/j.ijedudev.2010.09.004

Mondaca, C., Gajardo, Y., Muñoz, W., Sánchez, E., & Robledo, P. (2015). Estudiantes migrantes en la Región de Arica y Parinacota. Caracterización, distribución y consideraciones generales. In *Las fronteras del transnacionalismo: Límites y desbordes de la experiencia migrante en el Centro y Norte de Chile* (pp. 258–280). OchoLibros.

Mondaca, C., Rojas, A., Siares, C., & Sánchez, E. (2017). Inclusión, adscripción e identidad étnica en estudiantes de la Universidad de Tarapacá, frontera norte de Chile. *Diálogo Andino*, 139–150.

Mondaca-Rojas, C., & Gajardo-Carvajal, Y. (2013). La Educacion Intercultural Bilingue en la Region de Arica y Parinacota, 1980-2010. *Diálogo Andino*, 69–87.

Nauck, B. (2019). Ethnic inequality in educational attainment. In *Research Handbook on the Sociology of Education*. Edward Elgar Publishing.

Nef, J. (2003). The Chilean model: Fact and fiction. *Latin American Perspectives*, *30*(5), 16–40.

Noe, D., Rodríguez, J., & Zúñiga, I. (2005). *Brecha étnica e influencia de los pares en el rendimiento escolar: Evidencia para Chile*. CEPAL.

Oakes, J. (1985). *Keeping Track: How Schools Structure Inequality*. Yale University Press. https://books.google.com/books?id=qBioQgAACAAJ

OECD/CAF/ECLAC. (2018). *Latin American Economic Outlook 2018. Rethinking Institutions for Development*.

Ogbu, J. U. (1991). Immigrant and involuntary minorities in comparative perspective. In M. A. Gibson & J. U. Ogbu, *Minority Status and Schooling: A Comparative Study of Immigrant and Involuntary Minorities* (pp. 3–33). Garland. https://books.google.com/books?id=p6RYRAAACAAJ

Olaberría, E. (2016). *Bringing all Chileans on board* (No. 1289; OECD Economics Department Working Papers). OECD.

Pallas, A. M. (2003). Educational transitions, trajectories, and pathways. In *Handbook of the life course* (pp. 165–184). Springer.

Park, H. (2008). The Varied Educational Effects of Parent-Child Communication: A Comparative Study of Fourteen Countries. *Comparative Education Review*, *52*(2), 219–243. https://doi.org/10.1086/528763

Pavez, I. (2012). Inmigración y racismo: Experiencias de la niñez peruana en Santiago de Chile. *Si Somos Americanos. Revista de Estudios Transfronterizos*, *12*(1), 75–99.

Pavez, I., Ortiz, J. E., Jara, P., Olguin, C., & Domaica, A. (2018). Infancia haitiana migrante en Chile: Barreras y oportunidades en el proceso de escolarización. *EntreDiversidades. Revista de Ciencias Sociales y Humanidades*, 71–97.

Pfeffer, F. T. (2008). Persistent Inequality in Educational Attainment and its Institutional Context. *European Sociological Review*, *24*(5), 543–565. https://doi.org/10.1093/esr/jcn026

Pfeffer, F. T., & Hertel, F. R. (2015). How Has Educational Expansion Shaped Social Mobility Trends in the United States? *Social Forces*, *94*(1), 143–180. https://doi.org/10.1093/sf/sov045

Portes, A., & Zhou, M. (1993). The New Second Generation: Segmented Assimilation and Its Variants. *The Annals of the American Academy of Political and Social Science*, *530*, 74–96.

Psacharopoulos, G., & Patrinos, H. A. (1994). *Indigenous People and Poverty in Latin America: An empirical analysis* (Regional and Sectoral Studies). World Bank.

Raczynski, D., Hernández, M., Kegevic, L., & Roco, R. (2011). *El paso de la enseñanza básica a la media en estratos bajos: Un reto a la igualdad de oportunidades educativas* [Fondo de Investigación y Desarrollo en Educación FONIDE]. Ministerio de Educación de Chile.

Raftery, A. E., & Hout, M. (1993). Maximally Maintained Inequality: Expansion, Reform, and Opportunity in Irish Education, 1921-75. *Sociology of Education*, *66*(1), 41–62. https://doi.org/10.2307/2112784

Reardon, S. F. (2011). The widening academic achievement gap between the rich and the poor: New evidence and possible explanations. In G. J. Duncan & R. J. Murnane, *Whither opportunity? Rising inequality, schools, and children's life chances*. Russell Sage Foundation.

Reimer, D., & Thomsen, J.-P. (2019). Vertical and horizontal stratification in higher education. In *Research Handbook on the Sociology of Education*. Edward Elgar Publishing.

Reynolds, C. L. (2012). Where to attend? Estimating the effects of beginning college at a two-year institution. *Economics of Education Review*, *31*(4), 345–362.

Rumbaut, R. G. (2005). Turning points in the transition to adulthood: Determinants of educational attainment, incarceration, and early childbearing among children of immigrants. *Ethnic and Racial Studies*, *28*(6), 1041–1086.

Sánchez, S., & Escudero, C. (2008). Trayectorias educacionales y laborales de los técnicos en Chile. *Calidad En La Educación*, *29*, 18–34.

Santiago, P., Fiszbein, A., Jaramillo, S. G., & Radinger, T. (2017). *OCDE Revisiones de recursos escolares: Chile 2017*. https://www.oecd-ilibrary.org/content/publication/9789264287112-es

Schady, N., Behrman, J., Araujo, M. C., Azuero, R., Bernal, R., Bravo, D., Lopez-Boo, F., Macours, K., Marshall, D., Paxson, C., & Vakis, R. (2015). Wealth gradients in early childhood cognitive development in five Latin American countries. *The Journal of Human Resources*, *50*(2), 446–463. PubMed. https://doi.org/10.3368/jhr.50.2.446

Schwartzman, S. (2015). *Education in South America* (Education Around the World). Bloomsbury Academic.

Segato, R. (1999). Identidades politicas y alteridades historicas. *Nueva Sociedad*, *178*.

Segato, R. (2007). *La nación y sus otros: Raza, etnicidad y diversidad religiosa en tiempos de políticas de la identidad*. Prometeo Libros. https://books.google.cl/books?id=nNdnA-rgObgC

Sepúlveda, D. (2020, October 1). El techo de cristal educacional del pueblo mapuche. *CIPER*. https://www.ciperchile.cl/2020/10/01/el-techo-de-cristal-educacional-del-pueblo-mapuche/

Sepúlveda, L. (2016). Trayectorias educativo-laborales de jóvenes estudiantes de educación técnica en Chile:¿ Tiene sentido un sistema de formación para el trabajo en la educación secundaria? *Páginas de Educación*, *9*(2), 49–84.

Sewell, W. H., Haller, A. O., & Portes, A. (1969). The Educational and Early Occupational Attainment Process. *American Sociological Review*, *34*(1), 82–92. https://doi.org/10.2307/2092789

Solis, A. (2017). Credit Access and College Enrollment. *Journal of Political Economy*, *125*(2), 562–622. https://doi.org/10.1086/690829

Sotomayor, J. (2015). *Rentabilidad de la educación superior técnica entregada por los centros de formación técnica* [Tesis de Magister en Políticas Públicas]. Universidad de Chile.

Stanton-Salazar, R. (1997). A social capital framework for understanding the socialization of racial minority children and youths. *Harvard Educational Review*, *67*(1).

Stanton-Salazar, R., & Dornbusch, S. (1995). Social capital and the reproduction of inequality: Information networks among Mexican-origin high school students. *Sociology of Education*, *68*(2), 116–135.

Stevens, P., & Dworkin, A. (2014). *The Palgrave Handbook of Race and Ethnic Inequalities in Education*. Palgrave Macmillan UK. https://books.google.com/books?id=-bzyngEACAAJ

Sullivan, A., Henderson, M., Anders, J., & Moulton, V. (2018). Inequalities and the curriculum.

Oxford Review of Education, *44*(1), 1–5. https://doi.org/10.1080/03054985.2018.1409961

Taş, E. O., Reimão, M. E., & Orlando, M. B. (2014). Gender, Ethnicity, and Cumulative Disadvantage in Education Outcomes. *World Development*, *64*, 538–553. https://doi.org/10.1016/j.worlddev.2014.06.036

Telles, E. E. & Project on Ethnicity and Race in Latin America. (2014). *Pigmentocracies: Ethnicity, Race, and Color in Latin America*. University of North Carolina Press. https://books.google.com/books?id=ONzfoAEACAAJ

Torche, F. (2005). Privatization reform and inequality of educational opportunity: The case of Chile. *Sociology of Education*, *78*(4), 316–343.

Treviño, E., Donoso, F., Aguirre, E., Fraser, P., Godoy, F., Inostroza, D., & Castro, P. (2012). Educación para preservar nuestra diversidad cultural: Desafíos de implementación del Sector de Lengua Indígena en Chile. *Santiago: Ministerio de Educación*.

Treviño, E., Scheele, J., Gelber, D., Meyer, A., Claro, J. P., Thieme, C., González Fiedler, S., & Salazar, F. (2016). *Estudio sobre transiciones educativas en la enseñanza media y definiciones de la política para este nivel educativo*. Centro de Políticas Comparadas de Educación UDP.

Treviño, E., Valenzuela, J., & Villalobos, C. (2019). Segregation of indigenous students in the Chilean Educational System and its relation to socioeconomic segregation. In *Education & Poverty* (pp. 321–347). Cambridge Scholars Publishing.

Triventi, M. (2013). Stratification in higher education and its relationship with social inequality: A comparative study of 11 European countries. *European Sociological Review*, *29*(3), 489–502. https://doi.org/10.l093/esr/jc

Tyson, K. (2003). Notes from the Back of the Room: Problems and Paradoxes in the Schooling of Young Black Students. *Sociology of Education*, *76*(4), 326–343. https://doi.org/10.2307/1519869

Tyson, K. (2011). *Integration Interrupted: Tracking, Black Students, and Acting White after Brown*. Oxford University Press. https://books.google.com/books?id=od4SgILPjroC

UNESCO. (2015). *Informe de resultados tercer estudio regional comparativo y explicativo TERCE: Factores asociados*. Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación LLECE.

UNESCO. (2017). *Inequidad en los logros de aprendizaje entre estudiantes indígenas en América Latina: ¿Qué nos dice TERCE?* Oficina Regional de Educación para América Latina y el Caribe (OREALC/UNESCO Santiago).

UNESCO. (2020). *Inclusion and education: All means all* (Global Education Monitoring Report). UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000373718

Valenzuela, J. P., Bellei, C., & Ríos, D. de los. (2014). Socioeconomic school segregation in a market-oriented educational system. The case of Chile. *Journal of Education Policy*, *29*(2), 217–241. https://doi.org/10.1080/02680939.2013.806995

Valenzuela, J. P., & Montecinos, C. (2017). Structural reforms and equity in Chilean schools. In

Oxford Research Encyclopedia of Education.

Walsh, C. (2010). Interculturalidad critica y educacion intercultural. In J. Viaña, L. Tapia, & C. Walsh, *Construyendo interculturalidad critica*. Convenio Andres Bello.

Walther, A., Warth, A., Ule, M., & du Bois-Reymond, M. (2015). 'Me, my education and I': Constellations of decision-making in young people's educational trajectories. *International Journal of Qualitative Studies in Education*, *28*(3), 349–371.

Webb, A., Canales, A., & Becerra, R. (2017). Las desigualdades invisibilizadas: Población indígena y segregación escolar. In Centro UC Políticas Públicas, *Propuestas para Chile. Concurso Políticas Públicas 2016*. Pontificia Universidad Católica de Chile.

Williamson, G., Pérez, I., Collia, G., Modesto, F., & Raín, N. (2012). Docentes Rurales, Infancia y Adolescencia Mapuche. *Psicoperspectivas*, *11*(2), 77–96.

Wong, B. (2015). Careers "From" but not "in" science: Why are aspirations to be a scientist challenging for minority ethnic students? *Journal of Research in Science Teaching*, *52*(7), 979–1002.

Zapata, C. (2009). Indígenas y educación superior en América Latina: Los casos de Ecuador, Bolivia y Chile. *ISEES: Inclusión Social y Equidad En La Educación Superior*, *5*, 71–97.

Zhou, M., & Kim, S. (2006). Community forces, social capital, and educational achievement: The case of supplementary education in the Chinese and Korean immigrant communities. *Harvard Educational Review*, *76*(1), 1–29.