

Characterization of Students with Interrupted Educational Trajectories in a Sample of Reentry Schools Through Latent Class Analysis

Caracterización de estudiantes con trayectorias educativas interrumpidas en una muestra de escuelas de reingreso a través de análisis de clases latentes

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Abstract

Primary and Secondary education in Chile is obligatory and the right to access gratuitous education is guaranteed by the Political Constitution of the Republic. It is therefore the duty of the State to ensure universal access to formal and gratuitous educational establishments. It is estimated that between 139,000 and 358,000 young people between six and 21 are outside the Chilean educational system. The goal of this study was to characterize students who dropped out of the regular school system and are currently attending re-entry schools. Using Latent Class Analysis we identified this population as a heterogeneous group of youths forming three distinct groups: newcomers, seniors, and complex. The characteristics of this population are different from two other comparative groups attending Preventive Programs and Socio-educational Programs. The students of re-entry schools are a group formed mostly by males who hastily leave formal education and with different amounts of school retardation. They have sociodemographic characteristics that hinder their educational trajectory—such as monetary poverty—but they have a low frequency of problems with the law and social protection measures.

Keywords: interrupted educational trajectory, latent class analysis, re-entry schools, school dropout.

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Resumen

La educación primaria y secundaria en Chile es obligatoria, y el derecho al acceso gratuito a la misma está garantizado por la Constitución Política de la República, por lo que es deber del Estado asegurar el acceso gratuito a un establecimiento formal de educación a todos los ciudadanos y ciudadanas del país. Se estima que entre 139 y 358 mil jóvenes de entre seis y 21 años se encuentran fuera del sistema escolar chileno. El presente estudio tuvo como objetivo identificar las características de los estudiantes que han desertado del sistema escolar regular y que asisten actualmente a escuelas de reingreso, utilizando una metodología cuantitativa no experimental. A través de un análisis de clases latentes se pudo comprobar que las características de los jóvenes se distribuyen de manera heterogénea, conformando tres grupos distintos (novatos, antiguos y complejos), que poseen dificultades y características particulares. Estos hallazgos son distintos de los de otras muestras estudiadas (programas preventivos y programas socioeducativos). Se concluye que los estudiantes de escuelas de reingreso constituyen un grupo de jóvenes, mayoritariamente hombres, que abandonan apresuradamente la educación formal, cuentan con distintos años de rezago escolar y poseen características sociodemográficas que obstaculizan la trayectoria educativa —como la pobreza monetaria—, sin embargo evidencian una baja frecuencia de problemas con la justicia y medidas de protección.

Palabras clave: análisis de clases latentes, desescolarización, escuelas de reingreso, trayectoria educativa interrumpida.

Introduction

The participation of all citizens in the education system is essential in today's society. The entire educational process (lasting at least 12 years) has been linked to positive results at the individual level, not only transforming people's lives, but also being the main driver of development at the social level, contributing to the economic growth of nations, to social mobility and cohesion, and to building more democratic societies (United Nations Children's Fund, UNICEF/United Nations Development Program, UNDP, 2014; Organisation for Economic Co-operation and Development, OECD, 2012; United Nations, UN, 2015; United Nations Educational, Scientific, and Cultural Organization, Unesco, 2017). It has been estimated that the global learning crisis is costing governments \$129 billion a year (Unesco, 2014a), while “a one-year increase in the average educational attainment of a country's population increases annual per capita GDP growth from 2% to 2.5%,”(Unesco, 2014a, p. 17).

In this regard, various institutions have called attention to the social and economic cost of students dropping out of school, highlighting it as a serious issue and, therefore, one that must urgently be resolved worldwide (OECD, 2012; UN, 2015; Unesco, 2010; 2017). According to figures from Unesco (2014b), 12.8% of the world population and 7% of the Latin American population between five and 15 years old are outside the education system. In Chile there are different indicators for school dropout. On the one hand, the OECD (2017) states that 86% of the country's population complete secondary education before the age of 25. On the other hand, a study by the Center for Advanced Research in Education, CIAE (2019), estimates that the overall global rate of school dropout between six and 21 years of age is 8.99% (corresponding to 358,946 young Chileans), while the *Casen* survey (Ministerio de Desarrollo Social de Chile, 2018) indicates that only 3.6% of the population between six and 17 years old (138,572 young people) has dropped out of the school system.

The aforementioned figures reflect considerable differences in the percentage of school dropout between the population with lower and higher economic resources (CIAE, 2019; Ministerio de Desarrollo Social de Chile, 2018). This is consistent with various studies that claim that minors in the most vulnerable areas and with low family income have less access to education, higher rates of repetition, and incomplete studies (Foley, Gallipoli, & Green, 2014; Ministerio de Desarrollo Social de Chile, 2015a; Pomerantz, Moorman, & Litwack, 2007; Román, 2013; Unesco/OEI-Chile, 2009).

Based on this framework, it is necessary to be able to investigate the particularities of those who are outside the formal school system, because in order to break the vicious circle of exclusion from education, those who are excluded must first be made visible and their specific characteristics identified (Blanco, 2008; Unesco/OEI-Chile, 2009). Therefore, and with regard to the 2030 *Agenda for Sustainable Development* (Ministerio de Desarrollo Social de Chile, 2017; UN, 2015) and the public actions carried out in the country, specifically including the Educational Reform, the 2016 Inclusion Law, and the allocation of funds for school reintegration projects (Ministerio de Educación de Chile, Mineduc, 2017), this study is intended to identify the characteristics of students who have dropped out of the regular school system and are currently attending re-entry schools. The research is based on the assumption that school dropout has negative consequences at the individual and social level and, therefore, both the causes and the consequences (for example, re-entry schools) of the phenomenon must be identified for preventive purposes and for specialized intervention or treatment.

Literature Review

Definition of school dropout

The concept of school dropout has been defined and addressed many times, due to the variety of researchers and areas that have been interested in studying the subject (for example, psychology, sociology, and economics). The first perspective of the phenomenon, known in the literature as *school desertion*, defines the phenomenon as a voluntary action taken by children or young people to abandon educational projects, framing the problem within a normative and individualistic perspective, since it defines dropouts as those who do not possess sufficient skills, competencies, or conditions to continue in school (Giovagnoli, 2002; Goicovic, 2002; Teregi, 2009; Tinto, 1982).

This perspective was later modified on the argument that dropping out of school is a social problem, with an impact on economic development and personal well-being (Teregi, 2009; Vivanco 2014). Thus the concept of *school dropout* emerges, which considers the phenomenon from a relational and structural perspective comprised of different elements (Ramírez, 2013). In this sense, the term school dropout is conceptualized as a complex and gradual phenomenon with multiple factors, which manifest themselves in different ways and influence all of those outside the school system in different ways (Castro & Palma, 2006; Comisión Intersectorial de Reinserción Educativa, 2006; Ramírez, 2013; Unicef, 2009; Vega & Sáez, 2011).

Characteristics of school dropout

Factors in school dropout. Although different analytical, conceptual, and interpretative models have been developed in the national and international literature, an integral and multidisciplinary approach current prevails for school dropout, which understands that the factors that influence a student abandoning formal schooling are not exclusive between each other, and that the complexity of the phenomenon enables each of the components to be presented with a different frequency and intensity (Freeman & Simonsen, 2015; Román, 2013; Rumberger & Lim, 2008).

One of the main external factors associated with school dropout is the socioeconomic level, while the probability of dropping out of school is significantly higher among students that belong to the most vulnerable sectors of the population (Ministerio de Desarrollo Social de Chile, 2018; Román 2013). Similarly, the literature indicates that aspects such as child labor, teenage pregnancy, and students living in environments with the presence of drugs and alcohol have an influence (although there is no conclusive information whether there is a direct relationship) in the process of school dropout (Baeza, 2004; Junta Nacional de Auxilio Escolar y Becas, Junaeb, 2003; International Labour Organization, 2003; Rumberger & Lim, 2008; Santos, 2009).

On the other hand, in the family environment of minors who drop out of the formal education system, various risk factors have been described, including the family composition (single-parent family); the cultural and symbolic capital that surrounds the family environment; the educational levels of the parents (particularly the mother); and the academic expectations, attitudes, and projections of the parents for their children (Espíndola & León, 2002; Román, 2013; Rumberger & Lim, 2008; Sapelli & Torche, 2004).

The literature also focuses on various aspects of the students, the schools, and how they are operated. Indeed, school dropout is associated with individual factors such as poor school performance, academic retardation, school engagement, intrinsic motivation, expectations of academic performance, and the locus of control (Espinoza, Castillo, González, & Santa Cruz, 2014a; Fan & Wolters, 2014; Rumberger & Lim, 2008; Zaff et al., 2017). In terms of the educational environment, the structure and organization of the school, the pedagogical activities, the extracurricular activities, the teacher-student relationship, and the school ambience and harmony act as factors that retain or drive away students from schools (Espinoza, González, Santa Cruz, Castillo & Loyola, 2014b; Lee & Burkman, 2003; Román, 2013; Zaff et al., 2017).

Distribution of school dropout. As regards the behavior of the phenomenon, school dropout is more acute in rural than urban areas, with school dropout rates in rural areas reaching triple those in urban areas, while students from indigenous populations have higher rates of school dropout (Economic Commission for Latin America and the Caribbean, ECLAC, 2007).

Likewise, studies report that it is generally a greater proportion of male students who drop out of formal schooling (Branson, 2013); however, it is possible to find differences depending on the region and area studied. Espíndola and León (2002) report that in Latin America females drop out of school less frequently than males in urban areas; on the other hand, in rural areas, females tend to drop out of school more often than males, especially during the first few years of elementary school.

On the other hand, the stage of school at which dropping out takes place most frequently depends on the country and the area (urban or rural). In rural areas of Latin America, dropping out occurs more frequently during the elementary cycle, while in urban areas it depends on the country, with six of them—including Chile—seeing the highest rate of school dropout taking place during secondary education (Espíndola & León, 2002).

School dropout in Chile

In Chile, the literature on school dropout is scant and is generally of a descriptive nature, with the aim of studying the rates and determinants that affect school dropout among young people (González & Lascar, 2017; Santos, 2009). On the one hand, there are reports that establish the percentage and sociodemographic characteristics of students who are outside the school system, such as the *Casen* survey (Ministerio de Desarrollo Social de Chile, 2018), the *Injuv* survey (Ministerio de Desarrollo Social de Chile, 2015b), data from the Mineduc Study

Center (Mineduc, 2013), or studies such as that done by the Center for Advanced Research in Education at Universidad de Chile (CIAE, 2019). Using these data, there are more advanced studies that use statistical analyses and generate predictions of school dropout, for example (Rodríguez et al., 2016).

There are also papers that describe the characteristics of school dropout (Baeza, 2004) or which produce studies of specific cases of factors associated with school dropout, such as teenage pregnancy (Molina et al., 2004), intra-school factors (Espinoza et al., 2014b), or family factors (Espinoza, Castillo, González, y Loyola, 2012; Peña, Soto, & Calderón, 2016), to name but a few. Other papers include case studies of current school dropout programs, such as the MIDE-UC Measurement Center and the National Service for Minors, Sename (2016), or the Center for Comparative Education Policies, CPCE (2016) at Universidad Diego Portales.

The national literature reveals that Chile generally has a low school dropout figure, with the highest dropout rate concentrated in the final stage of the secondary cycle (Espíndola & León, 2002; Espinoza et al., 2012; Santos, 2009). Specifically, it is believed that the most critical period of school dropout occurs in passing from eighth grade of elementary school to the first year of secondary school and, later, during the third year of secondary education (Hernández, Álvarez, & Aranda, 2017).

In this regard, the low school dropout percentage is not distributed homogeneously between the different social groups that exist in Chile, since it is those with lower incomes and the more excluded sectors who display this phenomenon to a greater extent (Espinoza et al., 2012; Ministerio de Desarrollo Social de Chile, 2018). Espíndola and León (2002) report that young people from households in the bracket of the 25% lowest incomes in the country triple the dropout rate of teenagers in the bracket of the 25% highest income households.

Despite the fact that school dropout in Chile has a basis that is undeniable associated with poverty and educational exclusion, Sepúlveda and Opazo (2009) state that this is not the only way in which they are expressed. One of the big problems is the current strategies that exist to address school dropout, since this phenomenon is not a priority in current educational policy and the system displays certain weaknesses to deal with the problem (Sepúlveda & Opazo, 2009). In this regard, García Huidobro (2000) asserts that if the school is understood as a tool of social control oriented to produce individuals adapted to social expectations of behaviors and values, in some cases school failure can be understood as resistance to the socializing codes that it delivers. One key aspect in the explanation of the inadequacies of the educational processes and the school institution is the curricular designs, their normative structure, the assessment system, and the tendency of education to standardize individuals (García Huidobro, 2000).

Educational reintegration

In Chile, since the enactment of the 12-year compulsory schooling law (Ley N°19.876, 2003), work has been done with educational reintegration programs using funds from the state. Mineduc has designed educational reintegration as a process that helps to restore citizens' right to education and for those who have faced situations of educational exclusion to regain the status of a learner (Mineduc, 2017).

In order to ensure the continuity of all children's school trajectories, work has mainly been carried out in three areas: retention programs, educational reintegration programs, and re-entry schools. The first area was formed in 2014 and is intended to guarantee that students remain at school, acting in a preventive and promotional manner (Mineduc, 2011). Meanwhile, the reintegration programs work on the consolidation of educational spaces that are different from the regular school, where work can be conducted that is aimed at all schoolchildren, particularly those who have been out of school for a year or more and who have a school retardation of at least two years (Mineduc, 2017). These programs conduct activities constantly and with daily schedules that are not very long,

in order to create a bridge-space (transitional and for preparation) so that students can complete their formal education (Mineduc, 2017). They are generally initiatives that are carried out by civil society organizations that work in collaboration and with resources from the state (Unesco/OEI-Chile, 2009).

Finally, there are re-entry schools or second chance schools, a concept that came about in the European Economic Community (EEC) in the late 1990s with the aim of creating flexible and motivational initiatives that were adapted to the social environment of young people dropping out of school (Unesco/OEI-Chile, 2009). The peculiarity of re-entry schools is that they are aimed at young people who have been outside the educational system for several years and, therefore, generally have significant educational retardation (Pizarro, De la Vega, & Ormazábal, 2016). This underscores that students have different needs and, therefore, the times, methods, and assessments that are required are different from those that would be used in a context of regular educational training (Unesco/OEI-Chile, 2009). Re-entry schools thus formulate their own curricular and assessment proposals that allow them to certify their studies and which are adapted to the particular educational characteristics and needs of the students. In this regard, the actions are also intended to develop behaviors and attitudes that close the gaps that stand in the way of their social life, both in and outside schools, attempting to remedy experiences of failure, promoting mechanisms to deal with conflicts, generating employment training programs, and developing conditions of employability (Unesco/OEI-Chile, 2009; Vivanco, 2014).

Objectives and Hypothesis

The main objective of this study was to characterize students who have dropped out of the regular school system and are currently attending re-entry schools. In order to do this, we first examined the most important sociodemographic characteristics of students at re-entry schools; then, we identified whether there were any differences by gender in the sociodemographic characteristics of the re-entry school students; subsequently, the profile of the students' characteristics was compared with profiles of other dropout populations or those at risk of dropping out; and, finally, we evaluated the existence of heterogeneity in the sociodemographic characteristics of the population attending re-entry schools.

The main hypothesis of the study was that re-entry school students have sociodemographic characteristics that represent a high degree of social and economic vulnerability. It was thus expected that:

- they would be mostly male, with an average age of around 15 and having problems that hinder their educational trajectory, such as drug and alcohol consumption, problems with delinquency, and economic problems;
- there would be differences according to gender, where the males would present more socioeconomic deprivation that would complicate their educational trajectories;
- there would be differences between the profile of characteristics of re-entry school students with other populations, as this modality includes students with greater problems; and finally,
- there would be heterogeneity in the sociodemographic characteristics of re-entry school students with at least two distinguishable groups.

Methodology

Research design

We conducted a non-experimental study with a correlational design and different secondary data analysis techniques. Specifically, the non-experimental methodology used in this study has a survey-type design with data collected at a single moment in time (Balluerka, 2002). In addition to being cross-sectional, the study was characterized by having a descriptive survey with sociodemographic data obtained through existing databases or, in other words, secondary databases.

Participants

Intentional sampling was used as appropriate or, that is to say, only some cases were included in the sampling, considering those that are easiest to access due to the conditions of the study (Patton, 1990). The total sample consisted of 1,012 children and young people between 10 and 21 years old, belonging to the first three income quintiles and who, at the time of data collection, were enrolled in one of the school reintegration programs of the Súmte Foundation of the Hogar de Cristo (re-entry school, socio-educational reintegration program, and school dropout prevention program).

The sample of re-entry school students consisted of 419 children and young people belonging to different municipalities of the Metropolitan Region (Maipú, Renca, and La Pintana) and a district of the Biobío Region (Lota). The sample of the comparison populations was comprised of 533 regular students from educational establishments in the districts of Estación Central, San Ramón, La Pintana, and Santiago Centro who attended school dropout prevention programs; and 60 children and young people from the district of La Pintana who attended the socio-educational programs.

Procedure

The data were collected by each of the institutions belonging to the Súmte Foundation programs. The technique to apply the instrument depended on the team responsible for each program (professionals with expertise in social areas). In the recording process there was no comparison with administrative data, so we only considered what the user or responsible adult/relative reported.

As the questionnaires were prepared and administered by staff of the Súmte Foundation, the first step was to collect this information and generate the secondary database in order to perform descriptive and inferential analyses with the statistical software *R* (2019). Since we worked indirectly with the personal records of minors, a confidentiality commitment was signed to protect the anonymity of the research subjects and the institutional integrity of the Súmte Foundation.

Instruments

The measuring instruments used in the study were the unique identification form (FUI), in addition to the information in the class book of the re-entry school. The FUI is an internal diagnostic instrument used by the Hogar de Cristo Foundation to evaluate and characterize the users of its programs. The questionnaire is based on the *Casen* survey model and has an estimated completion time of 15 minutes. The information in the class book was used to add references regarding the academic background and class attendance of re-entry school students (these were not available for the other two programs).

Analysis plan

Two different databases were developed for analyzing the results. The first was used for descriptive analysis and was intended to describe the users of re-entry schools. In this, 18 of the 63 available variables were selected referring to the importance of the factors of the literature reviewed and the percentage of responses in each. The variables were: sociodemographic background (gender, age, marital status, and nationality), work history (occupation), educational background (school retardation, school level, grades, and attendance), health history (health system, chronic condition, and consumption of alcohol and drugs), judicial record (preventative measure and conflict with legal authorities), information for a responsible adult (presence of a responsible adult and their educational level), and economic background (housing and family income).

The second database was created for the latent class analysis (LCA) and we selected 11 of the 18 variables mentioned above (See Table 1 in Appendix), based on two criteria: the first being that within the categories of each variable there would be variability or, in other words, that users would not be grouped into a single category, eliminating the nationality and marital status variables. On the other hand, we used the discriminating criterion of the factors in the LCA, so those variables that had similar factor loadings in the chosen groups were eliminated and, therefore, had a similar conditional probability in each group (gender, educational level of the responsible person, health system, and housing).

Once the databases had been prepared, we carried out the descriptive and inferential quantitative analyses, including the Chi-square test, Fisher's exact test, Student's t-test, ANOVA, Tukey's test, and latent class analysis.

Results

Descriptive analysis

The summary of the descriptive analysis of the 18 variables and the comparison with the other two programs can be seen in Table 2 (Appendix). Below, we describe only the most relevant findings for the characterization of the students at re-entry schools and the comparison groups.

At the re-entry schools, the number of males ($n = 263$) is greater than the number of females ($n = 156$), this being a significant difference ($\chi^2(1) = 27.33, p < 0.001$). The average age of the students is 15.24 ($SD = 1.65$), ranging from 10 to 21, with 92% being minors. When comparing the average age of re-entry school students with those on socio-educational programs ($M = 15.45; SD = 1.76$) and prevention programs ($M = 13.23; SD = 2.47$), we can find significant differences between groups ($F(2, 1009) = 115.1, p < 0.001$), specifically between prevention programs and re-entry schools ($p < 0.001$) and between prevention and socio-educational programs ($p < 0.001$). On the other hand, 99% of the students at re-entry schools are Chilean, while in the preventive program 11% of the students are of other nationalities.

With regard to work history, 6% of re-entry school users are in work. Of the total, 54% are male and all of those working are over 18. In the area of health, 96% of the subjects do not have a long-term and/or permanent condition, while in socio-educational programs about 23% of them do. In addition, 44% of students at re-entry schools report having used alcohol and drugs at least once in the last 12 months, of whom 64% are male. When compared with students in socio-educational programs, 69% report having consumed alcohol or drugs, while in prevention programs only 1% report having done so.

The judicial records indicate that, of the students who attend re-entry schools, 15% are in the program due to a protection measure dictated by the Family Court and 6% have had conflicts with the law, of whom 84% are male and 16% female. This difference is significant ($\chi^2(1) = 11.56, p < 0.001$) and their ages range from 14 to 19, with 90% being minors. In socio-educational programs, 20% have had conflicts with the law, and in preventive programs, none of the students have had problems with the law.

Regarding the responsible adult, 94% of the individuals attending re-entry schools report having a personal caregiver, who has an average age of 42.41 ($SD = 9.88$), where 85% of them are female. As regards the relationship or tie to the responsible adult, 81% of them are parents, 8% grandparents, 7% a different relative, and 4% another significant person. Some 76% of the responsible adults did not finish the 12 years of compulsory education, and only 5% of them were able to go into higher education.

No student at the re-entry schools is homeless and 5% live in emergency housing or in a precarious home made of reused materials. On average, these students live with 4.69 people in their home ($SD = 2.1$), which has 2.39 bedrooms ($SD = 0.72$), so the overcrowding rate is 12%. On the other hand, considering the total income received by the individual and all members of the household, re-entry school students have an average monthly family income of \$271,871 Chilean pesos ($SD = \$128,849$), where 75% of the families earn \$300,000 Chilean pesos or less. Regarding the homes of re-entry school students, 24% report not being in monetary poverty, while 29% report that they are, and 47% report that they are in extreme monetary poverty.

When it comes to school records, the average number of years of school retardation of students at re-entry schools is 3.31 ($SD = 1.65$), with a range of 0 to 10 years of retardation. When comparing the number of years of school retardation between re-entry schools, socio-educational programs ($M = 3.47; SD = 2.87$), and prevention programs ($M = 0.78; SD = 1.29$) we observe significant differences ($F(2, 959) = 312.6, p < 0.001$). Specifically, the differences occur between prevention programs and re-entry schools ($p < 0.001$) and between prevention programs and reintegration programs ($p < 0.001$). In addition, 98% of students at re-entry schools completed elementary or pre-school education as their final year ($n = 410$) and the remaining 2% have completed a secondary school course ($n = 7$) or attended special education ($n = 2$).

On the other hand, for 2016 the re-entry school students obtained an average final grade of 4.97 ($SD = 1.16$), and only 10% of the sample had an average grade lower than 4.0. Attendance was taken from Monday to Friday and the standard that was used was that the student had to achieve 85% attendance to pass the course. In total, 10% of the sample had class attendance of less than 40%, 17% attended between 41% and 60% of classes, 33% attended between 61% and 80%, and 40% attended between 81% and 100%. Among the reasons why students failed to attend classes, the most frequent (50%) was absence due to contextual reasons (insecurity in the area where the student lives), family or social reasons (specific problems of the student that made it impossible for them to attend classes regularly), while 39% did not attend due to demotivation, and 11% were absent because of reasons of ill health or sickness.

Latent class analysis

The objective of the LCA was to group students at re-entry schools, allowing us to identify different profiles derived from the probability of responding in the affirmative to each item.

Step I: Inspection of variables and formulation of models. As Goodman (1974) points out, the subtypes of LCA cases are formed based on a categorical latent variable that creates the division of latent classes of observed variables, also categorical. Therefore, the first step to perform the LCA was to convert continuous variables into categorical variables. The variables used are shown in Table 1 (Appendix). Incomplete data are observed for

some variables, for which we used the FIML estimator of the polCA package of the *R* statistical software (R Core Team, 2019), which allows maximization of the unconditional likelihood using the information of all available data (Skrondal & Rabe-Hesketh, 2004).

Considering the 11 variables mentioned above, we established a simple LCA model, that is, without covariates or dependence between indicators. This decision was based mainly on the exploratory nature of the research and, since work was done with a secondary database, it is important to start using a model without modeling explanatory variables that affect the responses, so as to avoid making errors in the interpretation of the results.

Step II: Selection of models. We estimated the statistics to allow identification of the model that best fitted the data (Table 3 in Appendix). The models were compared based on two measures of goodness of fit (assessment of relative fit) and the parsimony of the model (assessment of conceptual interpretability). For the measurements of goodness of fit, we used the Bayesian information criteria (BIC) and the Akaike information criteria (AIC). Considering that the adjustment indicators did not unequivocally favor one model over the others (see Table 3), the interpretability criterion was added to identify the most appropriate and parsimonious model. Since 11 variables were used, the models of four and five latent classes were the most difficult to interpret, as there were groups with low membership percentages and similar characteristics. Between the models of two and three latent classes, the model of three best summarizes the way in which the groups are formed. Therefore, in addition to having good interpretability and having acceptable adjustment indicators (it is the model with the second lowest BIC), the model of three latent classes was selected to interpret and analyze.

Step III: Result of LCA. In Table 4 (Appendix) we can see the response probabilities for the manifest variables, conditional on membership of the classes and the relative proportion of each of them. The classes identified can be seen in Figure 1 (Appendix) and are characterized as follows:

- Class 1, newcomers: the group with the highest prevalence (72%) in the population and it was denominated in this way since it is the class with the lowest age and the lowest school retardation. In spite of this, they have a probability of low-medium school attendance (less than 50% of the time) and a higher probability of obtaining inadequate grades with respect to the other two classes. This class has a low probability of having been punished by the law, having protection measures, working, and presenting problematic alcohol or drug consumption. For the most part they do have a responsible adult and this is the class that has the lowest number of students in poverty and/or extreme poverty.
- Class 2, seniors: with 18% prevalence. This group is characterized by the fact that all the students are over 19 years of age and they have the greatest likelihood of having a high degree of medium-high school retardation. In spite of this, they are more likely than the other two classes to have an average grade between good and excellent and they are also the students with the best attendance, since they have a high probability of attending school more than 85% of the time. On the other hand, they have a high probability of having monetary poverty, particularly extreme monetary poverty, a high probability of being in work (more than the other two classes), and a low probability of having been punished by the law, having protection measures, and presenting problematic alcohol or drug consumption.
- Class 3, complex: represents 10% of the students. This class has a high probability of presenting problematic substance use, having protection measures, extreme monetary poverty, and having been punished by the law. In addition, they have a low probability of working, do not have permanent or long-term health conditions, and have a responsible adult. Their grades and their attendance are comparatively better than the newcomers, but lower than the seniors. Finally, they have a high probability of having problematic alcohol or drug consumption.

Discussion and conclusions

Students of re-entry schools are characterized mainly by being children and young people between 13 and 20 years of age (with an average age of 15), mostly male and showing sociodemographic characteristics that hinder their educational trajectory, such as monetary difficulties (poverty), alcohol and drug consumption, averaging more than three years of school retardation, and low education of their responsible adults. These sociodemographic characteristics are, for the most part, different from those of young people on prevention programs, since the beneficiaries of such programs do not suffer from having developed obstacles to education so frequently, as in the case of those attending re-entry schools. In contrast, the beneficiaries of socio-educational programs have similar characteristics to those of re-entry schools, even showing a greater degree of vulnerability than the latter in some variables. This finding is not consistent with what is described by the literature and the ministerial bases for educational reintegration programs, since students at re-entry schools are considered more vulnerable and having greater focal problems, due to the unfavorable context that surrounds them, while socio-educational programs are described as a transitional bridge for students to continue their subsequent studies in formal schools.

When studying the characteristics of re-entry school students in detail, we can observe heterogeneous distribution of the sample. The LCA allowed us to identify variability in the proportion of the factors studied, identifying three particular groups among the students of re-entry schools.

The group called newcomers is characterized by having recent dropout, having a low average age, presenting low-medium school retardation, and having a lower percentage of focal problems. This first group, although being observed to be the least vulnerable of the three, is the one with the lowest grades and the lowest level of school attendance. This is significant, since it is possible that the demotivation related to dropping out of formal school or low expectations and beliefs—a self-fulfilling prophecy—regarding their academic performance and professional future is operating in their behavior (Ryan & Deci, 2000; Sánchez & López, 2005). In this regard, work that can be done with this group in promoting academic motivation, self-esteem, and preventing behaviors that can hinder their educational trajectory is essential.

The second group, called seniors, represents a much lower proportion of students and they are characterized by being older, with medium-high school retardation and a higher probability of being in work. Like the newcomer group, its members have a low probability of having problems of substance use, problems with the law, or having protection measures. Although they are the group that is oldest and they have spent more time outside formal education, they have the best grades and school attendance. Considering their good grades and high level of attendance, we can assume that this group has high motivation for their formal studies, which would contrast with the low motivation that the other groups possess, given their lower performance and attendance levels (Keene, 2003). This information could be a significant contribution both for future research on the issue of educational reintegration and for collaborative work in the classroom, since it helps generate focused instances of learning and further development of skills and knowledge (César & Santos, 2006; Milbourne, Macrae, & Maguire, 2010). With this in mind, it is important for the different needs and possibilities present in the classroom to be recognized and for spaces for participation and flexibility in the organization of the educational community to be provided, in order to generate inclusive work both inside and outside the classroom.

The last group, the complex, contains the lowest percentage of students, but their identification is essential, since this is the group with the greatest vulnerability. This group is of medium age, medium school retardation, and is mainly characterized by being the group most likely to have been punished by the law, having consumed drugs or alcohol, having protection measures, and suffering from monetary poverty. Although this group is more likely than the others to have focal problems, it is not the group with the worst grades or with the lowest school attendance level. In this regard, it is important to identify this group for two relevant reasons: the first is

associated with the administrative and teaching staff of re-entry schools, because reinforcement and collaboration is needed to work on these focal problems; secondly, because this is a group that needs focused support and understanding to create a favorable educational environment where the individual can finish their formal studies and ensure real social and labor integration.

Going beyond the significant reduction in dropout rates in Chile, within the percentage of young people that fail to have successful and rewarding educational trajectories, this research reveals two principal aspects in complexity and severity. The first is that the majority of students at re-entry schools have a high degree of vulnerability. However, vulnerability and problems associated with their interrupted educational trajectories are not distributed homogeneously among the population studied, but it is possible to differentiate groups, each of which has particular difficulties and characteristics. On the other hand, re-entry schools have a different characterization profile from preventive programs and socio-educational programs, where it is important to underscore that the latter serve people with higher indices of problems than re-entry schools. This is noteworthy and, therefore, it is advisable to review the bases of the educational programs that are aimed at this population.

Likewise, it is important to consider some of the limitations of this study. First, we worked with a secondary database, which did not allow us to have optimal control over the variables used in the study. Collection of data on the population studied involved technical difficulties that arose in the process of gathering information. On the other hand, the validity of the data can be questioned, because although the *Casen* survey is an instrument used nationally and which has high standards, the format and type of questions are aimed at eliciting a response from the head of a household and not from students with the characteristics mentioned above. It is thus recommended that future studies organize the questions and use a format that is friendlier to students and it will therefore be possible to reduce measurement errors and create a simpler way of working with schools. In this vein, it could also be important to be able to include variables that have been related to school dropout in the literature and with educational issues that contribute to the description of students at re-entry schools, for example, pregnancy or paternity, academic performance before leaving formal school, and number of brothers and sisters and place occupied among the siblings, among other aspects.

As a suggestion, for future studies it is recommended that different sources of information or methodologies (for example, mixed) be used to complement the characterization of re-entry school students and to be able to carry out more thorough and comprehensive research of the phenomenon. In this regard, it would be beneficial to examine variables associated with the educational and life trajectory of re-entry school students, such as direct measurements of motivation, self-esteem, and academic self-efficacy, and variables related to the organization of re-entry schools (structure of the school, educational material, classroom climate, and pedagogical practices). On the other hand, in order to be able to create programs that are appropriate for students, it is important to note the updating of knowledge regarding the population that drops out of school and attends re-entry school or other forms of reintegration. An example of this is that, although the predominant nationality of the students at re-entry schools is Chilean, migratory flows into the country are growing and diversifying, causing problems for the provision of education, particularly in marginal neighborhoods (Rojas & Silva, 2016; Unesco, 2018). In this study, although there are no significant proportions of foreign students in school re-entry and socio-educational programs, a significant percentage of them were observed in the preventive programs (11%).

Notwithstanding its limitations, this study provides a characterization of students who have dropped out of school that helps to identify certain groups whose educational needs may be different. There is undoubtedly a long way to go to generate more complete knowledge about students who have left school and later resume their studies; however, this research is a contribution to advance towards better characterization of this population. In this regard, we can confirm the importance of properly identifying the heterogeneity of the characteristics

and requirements of students of re-entry schools, as well as the need to have new and relevant research on this phenomenon, since only by raising awareness and adding to the knowledge of this population can progress be made in the appropriate integration of these students into society.

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Annexes

Table 1. Variables used Latent Class Analysis

Variable	Nº of categories	Categories
Problematic consumption	2	Yes / No
Conflict with the law	2	Yes / No
Protection measure	2	Yes / No
Permanent condition	2	Yes / No
Working	2	Yes / No
Responsible adult	2	Yes / No
Age	3	Basic Education (10-14 years)
		Secondary Education (15-18 years)
		Adult (19-21 years)
Income (Poverty)*	3	Has no monetary poverty
		Has monetary poverty
		Has extreme monetary poverty
School retardation	3	Low (between 1 and 2 years)
		Medium (between 3 and 4 years)
		Extreme (more than 4 years)
School attendance	3	Less than 50% attendance
		Between 50% and 84% attendance
		Between 85% and 100% attendance
Grade average	4	Less than adequate (1.0-3.9)
		Adequate (4.0-4.9)
		Good (5.0-5.9)
		Excellent (6.0-7.0)

Source: Prepared by the authors.

Table 2. Sociodemographic factors for re-entry school and comparison with socio-educational program and preventive program

	Program			Significant Difference	
	Re-entry school	Socio-educational program	Preventative program	Value	P(<r)
<i>n</i>	419	60	533		
Gender <i>male</i>	63% <i>n</i> = 263	58% <i>n</i> = 35	51% <i>n</i> = 2	$\chi^2(2) = 12.41$	0.02
Age <i>años</i>	M = 15.24 DE = 1.65	M = 15.45 DE = 1.76	M = 13.23 DE = 2.47	F(2, 1009) = 115.1	<0.001
Nationality <i>Chilean</i>	99% <i>n</i> = 415	100% <i>n</i> = 60	89% <i>n</i> = 460		<0.001
Marital status <i>Single</i>	99% <i>n</i> = 418	100% <i>n</i> = 60	99% <i>n</i> = 532		
Working <i>Yes</i>	6% <i>n</i> = 24	3% <i>n</i> = 2	8% <i>n</i> = 42		
School retardation <i>Years</i>	M = 3.31 DE = 1.65	M = 3.47 DE = 2.87	M = 0.79 DE = 1.29	F(2,959) = 312.9	<0.001
Affiliation to health system <i>Yes</i>	93% <i>n</i> = 388	93% <i>n</i> = 56	91% <i>n</i> = 468		
Chronic health condition <i>Yes</i>	4% <i>n</i> = 18	23% <i>n</i> = 14	7% <i>n</i> = 35		<0.001
Consumption of drugs and alcohol <i>Yes</i>	44% <i>n</i> = 182	69% <i>n</i> = 41	1% <i>n</i> = 2	$\chi^2(2) = 267.21$	<0.001
Protection measure <i>Yes</i>	15% <i>n</i> = 42	22% <i>n</i> = 13	1% <i>n</i> = 3		<0.001
Conflicts with the law <i>Yes</i>	6% <i>n</i> = 25	20% <i>n</i> = 20	0%		<0.001
Responsible adult <i>Yes</i>	94% <i>n</i> = 392	98% <i>n</i> = 59	97% <i>n</i> = 517		
Housing <i>Lives alone</i>	2% <i>n</i> = 412	2% <i>n</i> = 1	0.5% <i>n</i> = 531		
Overcrowding <i>Yes</i>	12% <i>n</i> = 51	10% <i>n</i> = 6	12% <i>n</i> = 64		
Income <i>Monetary poverty</i>	76% <i>n</i> = 318	78% <i>n</i> = 47	80% <i>n</i> = 425		

Source: Prepared by the authors.

Table 3. Results of adjustment model for different number of classes

Number of classes	Likelihood ratio (G2)	Chi-square (χ^2)	AIC	BIC
2	988	8374	5392	5533
3	901	4613	5323	5537
4	843	3622	5297	5584
5	796	3030	5276	5636

Source: Prepared by the authors.

Table 4. Results of basic model of 3 latent classes

	Class 1	Class 2	Class 3
Prevalence of the class	0.72	0.18	0.10
Average grade			
Inadequate	0.14	0.00	0.07
Adequate	0.29	0.04	0.40
Good	0.48	0.82	0.48
Excellent	0.09	0.14	0.05
Years of school retardation			
Low	0.42	0.00	0.29
Medium	0.48	0.59	0.42
High	0.01	0.41	0.29
School attendance			
Less than 50%	0.20	0.00	0.15
Between 50% and 85%	0.46	0.36	0.43
Over 85%	0.34	0.64	0.42
Age			
6-14	0.43	0.00	0.20
15-18	0.57	0.92	0.80
19 and over	0.00	0.08	0.00
Monetary poverty			
Does not have poverty	0.37	0.13	0.10
Has poverty	0.32	0.36	0.36
Has extreme poverty	0.31	0.51	0.54
Punished by the law			
Yes	0.01	0.00	0.48
No	0.99	1.00	0.52
Problematic consumption			
Yes	0.11	0.26	1.00
No	0.89	0.75	0.00
Working			
Yes	0.00	0.33	0.00
No	1.00	0.67	1.00
Long term or permanent condition			
Yes	0.05	0.05	0.00
No	0.95	0.95	1.00
Responsible adult			
Yes	0.95	0.86	0.98
No	0.05	0.14	0.02
Protection measure			
Yes	0.11	0.04	0.55
No	0.89	0.96	0.45

Fuente: Elaboración propia.

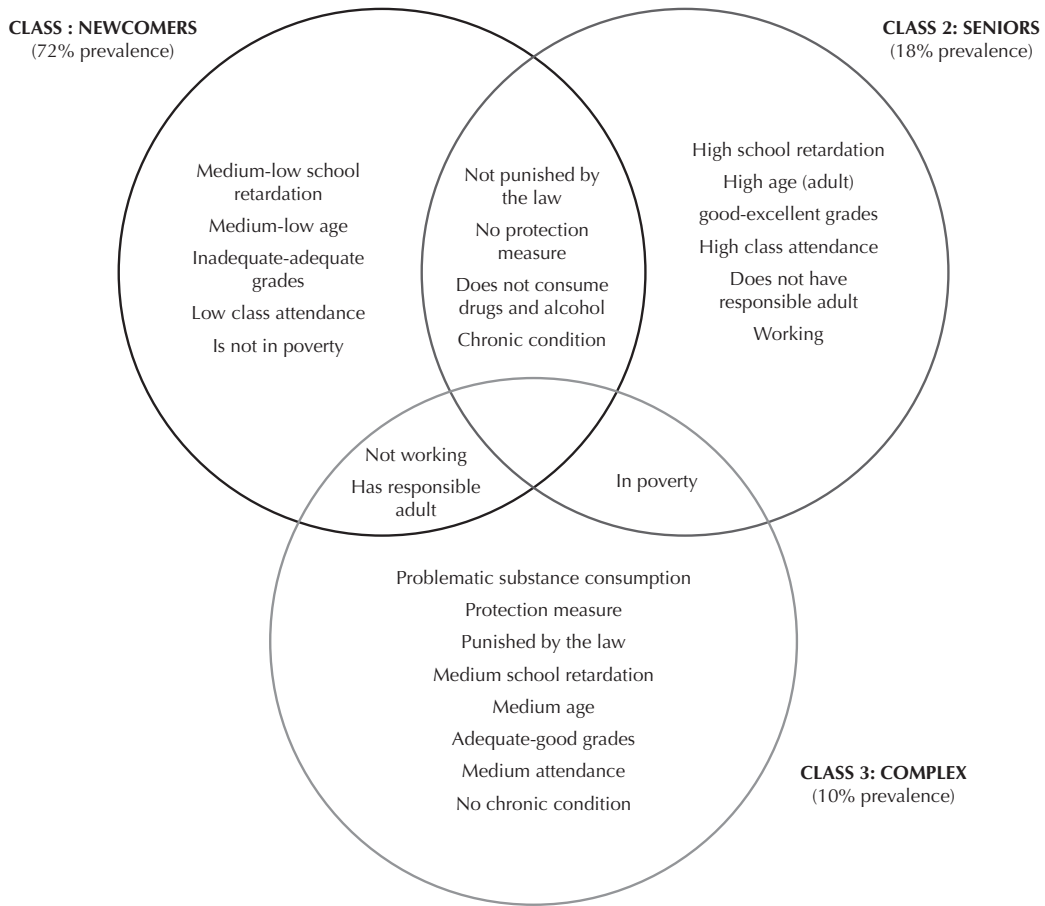


Figure 1. Chart of basic classification model of three groups.
Source: Prepared by the authors.