Classification of Dropouts to Improve Student Re-Engagement: The Case of Chilean Secondary Opportunity Centers

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Abstract
Chile offers high school dropouts a chance to graduate through enrollment in Second Opportunity Centers, located in cities ranging in population from 5 million inhabitants to less than 100,000. Participants in 18 centers were classified into four distinct classes based on their family situation, handicaps, employment, experience with discrimination, and ambitions. Students were compared with respect to their satisfaction with Center activities. Students experiencing instability in their lives, more often in larger cities, were least satisfied. The most successful activity was workshops discussing psychological and social issues. Some activities failed to attract any of the four classes of students.

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Introduction

Chile has the most advanced economy in Latin America (OECD, 2018), but also ranks among the top five countries of the world in income inequality (OECD, 2016). It also is one of the most highly urbanized countries in the world; 89 per cent of its population lives in urban areas (Janubova & Gress, 2016). Santiago, the capital, is Chile's sole large city. Today it could be classified as "urban intensive" and smaller cities as "urban emergent" (Milner, 2012). Although densely settled, in both cases there remains today a clearly defined pattern of spatial separation based on social and on economic status (Ruiz-Tagle & López, 2014).

The education system of Chile was designed and operated by the immigrants from Europe. Wealthier Chileans of European ancestry educated their children with tutors or sent them abroad. Over time this group solidified into a relatively impermeable elite, with intermarriage and limited membership clubs and associations. Middle class European Chileans sent their children to private, religious schools. Lower-income Chileans of mixed parentage (European, American and African) had little access to formal schooling in the early years of the republic. Only in 1,860 did the State assume responsibility for the first four years of school, imposing a single national curriculum for all schools. Public elementary schools gradually appeared in every town and city. By 1970 about 38 per cent of the population had graduated from secondary schools most of which were public and located in more prosperous sections of cities and towns (OECD, 2017).

The military government that seized power in 1973 turned over the administration of public schools to municipal governments, with funding based on enrollments. Then, believing that competition between schools would improve quality, the government initially offered vouchers (equivalent to per-student costs in public schools) that parents could use to enroll their children in any school except those with restrictive admissions. As the voucher is paid directly to the school it is a subsidy. In 1994, however, both public and private subsidized schools were allowed to charge monthly fees. The net effect of the establishment of subsidized schools was a reduction of enrollments in public high schools, from 80 to 40 percent, and an increase in private schools from 20 to 60 percent (McEwan & Carnoy, 2000; Murnane et al., 2017).

Today, many of the subsidized private schools are selective in their admissions, while public schools are obliged to accept students who have failed in private schools (Bellei, 2009). Chilean scholars have defined the final result as one of "school segregation," a joint product of a high degree of residential separation based on income, and greater selectivity (by parents and schools) (Santos & Elacqua, 2016).

A net effect of the voucher subsidy system has been a concentration of so-called "vulnerable" students in public schools (Elacqua, 2009). Vulnerable refers to both economically disadvantaged (low income) and indigenous students. About 30 per cent of all students (primary and secondary) are considered vulnerable; 70 per cent of these attend public schools. At the same time, however, the voucher system has made private schools more segregated, there is less variety in characteristics of their student population than in municipal schools (Valenzuela et al., 2014).

A high rate of economic growth made it possible for Chile to rapidly expand access to education, at all levels. At the same time, the government also became concerned about reducing the number of students withdrawing from secondary school before completion. Although the non-completion rate of 10 per cent is relatively low compared to other countries, a progressive government seeking greater social and economic equality sought ways to increase the completion rate. Up to that point in time only a portion of early school leavers have taken advantage of existing programs designed to "re-engage" dropouts (Espinoza et al.,2020a).

In 2015 the government established a system of centers that would offer out-of-school youth a second opportunity. The new centers, all of which are located in urban areas, offer an intensive and accelerated educational program that allows students two complete two grades of high school in 1 year. Once all requirements are met, they receive a secondary school diploma. The program is free and admits all applicants. More than 100 Centers have been opened in urban areas attracting 30,000 (of about 130,000) out-of-school youth between 14 and 18. The students enrolling in the Second Opportunity Centers have not been identified by where they studied previously (Ministerio de Educación, 2015).

Remedial schools are not a new idea, and take several forms. In the United States, students identified as at risk of failing or leaving, are encouraged to enroll in a program that might be more suited to their interests and learning style (Carver & Lewis, 2010; Raywid, 1994; Rennie Center, 2017). Canada and Australia run programs similar to the United States (Morrissette, 2011; Polidano et al., 2012). A variety of second chance schools for older youth who have dropped out are in Europe, including Spain (Day et al., 2013). Second opportunity schools are also operated in several Latin American countries (Corchuelo et al., 2016; OREALC-UNESCO, 2009).

As elsewhere, students in Chile dropout of school for many and varied reasons (Torres et al., 2015). Until recently the only public option in Chile for dropouts was enrollment in adult education programs (Espinoza et al., 2017). There had been three privately-operated second opportunity schools in the Santiago metropolitan area (Alvarado et al., 2013; Chapple, 2016). Not much

had been published, however, about the specific practices that enabled their dropout students to persist to completion of secondary studies (Espinoza et al., 2020b). Research in Chile on out-of-school youth has been limited to descriptive studies of reasons for withdrawal (Biblioteca del Congreso Nacional, 2014).

This article explores whether dropouts differ principally in their gender, residential location, or some combination of factors that occur together. To this end we develop a classification of the different types of students enrolled in the government's Second Opportunity Centers. We then assess whether the practices employed in the Centers vary in their effectiveness with different types of dropouts. Information of this kind will be helpful for improvement of the Second Opportunity Center program. This study might inform the direction of future research.

Research on Factors Associated with Early Withdrawal from School

Quantitative research on high school dropouts has a long history. A review of 25 years of (primarily North American) research proposed four categories of risk factors associated with withdrawal: academic performance, behaviors, attitudes, and background including urban residence (Rumberger & Lim, 2008). The risk of early withdrawal has been shown to be related to race, gender and income, and higher in urban centers (Murnane, 2013). Similar groupings are reported in studies carried out in Europe (Cabus & De Witte, 2016; De Witte et al., 2013), India (Gouda & Sekher, 2014), South Africa (Mkwananzi & De Wet, 2014) and Latin America (Adelman & Székely, 2017; Espinoza et al., 2020a). The primary focus of these studies was the immediate cause for expulsion or withdrawal from school.

An alternative approach to school withdrawal describes it as a relatively long process during which factors external to school, some associated with place of residence, can dispose a student to dis-engage and eventually drop out (Gottfried, 2013). It is these external factors that explain why not all students respond well to the "one size fits all" organization and operation of most schools. Given that these are designed to be familiar to students from middle- and upper-income families (Espinoza et al., 2014; Lawson & Lawson, 2013), lower-income students are most prone to not graduate (Weiner & Higgins, 2017). The lower-income students can be intellectually capable but have been raised in physical and social environments that differ from those who designed the school. Minimally integrated into the academic and social life of the conventional urban school, these students are more likely to be punished with low grades, to be shunned by other students, and

to seek recognition elsewhere. Some of these "marginal," vulnerable or at-risk students are pushed out by the system, others are pulled out by external attractions or stressful events (Doll et al., 2013). In turn, the presence of resources such as support from parents or teachers, or clearly defined goals, can reduce the effects of pushes and pulls (Boylan & Renzulli, 2017; Bradley & Renzulli, 2011).

Research has shown that the most reliable predictor that a student will remain in school is their level of participation in school activities. These include social activities as well as academic lessons (Arguedas-Negrini & Jiménez-Segura, 2007; Finn, 1989). Some students persist in school because of the social rewards it can provide. Students are more likely to remain in school if they have a sense of belonging; feel accepted and valued by classmates and teachers; and/or if they value academic success and feel remaining in school will benefit them personally (Brown & Evans, 2002). They are at a higher risk of withdrawal (or expulsion) if they are disengaged from school (social and academic) activities (Dupéré et al., 2015). An international review recommends that instead of looking for specific factors that trigger dropping out, research should focus on identifying processes or extended activities by which student persistence and continuation can be increased (De Witte et al., 2013).

The likelihood of withdrawal changes over time with changes in earlier parental and personal resources, school experiences, and other factors (Dupéré et al., 2015; Entwisle et al., 2004). Conditions that moderate or trigger the likelihood of that decision include parental and personal (intellectual and emotional) resources, and school experiences that make school more or less attractive (Allensworth & Easton, 2007; Kern & Friedman, 2008; Lawson & Lawson, 2013). If those triggering factors were to persist from primary school onward then we would expect no differences in the reasons for leaving early or later (Stearns et al., 2007).

The term "engagement" is used to refer to the disposition of persons to continue in a given situation or task. Typically engagement is measured along three dimensions: behavioral, emotional/affective, and cognitive (Archambault et al., 2009; Janosz et al., 2008; Wang & Eccles, 2012). The behavioral dimension generally is more strongly associated with early leaving from school; relative scores on the three dimensions vary with school and subject matter. The contribution of satisfaction and consequent engagement to academic success has been shown in a variety of countries (Chase et al., 2014; Konold et al., 2018; Wara et al., 2017; Wonglorsaichon et al., 2014).

If we consider withdrawal from school as a process of dis-engagement, as the result of different combinations of factors that can come into play at different moments in the student's life, then re-engagement of dropouts requires a parallel variety of strategies or interventions. The first step in identifying that

variety would be to discover the different combinations of factors that triggered the initial withdrawal. Interest in re-engagement should increase with mitigation or removal of the earlier trigger. In some circumstances that might be enough by itself. A longitudinal study in the United States found that dropouts who did re-engage in high school were those with higher ambitions and employment experience (Entwisle et al., 2004). A study in Australia reports that employed dropouts who work are more likely to go back to school (Black et al., 2012). Students who had been in second chance schools in Europe were more likely to return to regular school and graduate (Day et al., 2013).

Although more attention is being paid now to what is called the recovery of students who have already withdrawn from school (Center For Promise, 2013; Rennie-Hill et al., 2014), there have as yet been only a few systematic assessments of the relative effectiveness of different strategies used with specific groups or types of dropouts.

Classification of Types of Dropouts

In this section we review four studies that have classified types of dropouts. Given the variety of reasons for early withdrawal from school, our ambition is to identify some ways in which second chance schools can re-engage some dropouts. The previous studies are a sample of the state of the art in separating out types or classes of dropouts.

One of the first typologies based on quantitative measures compared students who left school before finishing seventh grade with those who waited until entering high school. In 1982, researchers over a 6-year period tracked a sample of 475 boys and girls in three Southern U.S. communities enrolled in seventh grade (Cairns et al., 1989). By grade 11, 14 per cent of the students had withdrawn from school. Overall, students older than their peers were more likely to drop out. Using cluster analysis, a statistical approach that assigns individuals to groups of related variables, seventh grade students were classified into seven groups that varied in their rate of dropout (Antonenko et al., 2012). In the cluster labeled "highly aggressive and having poor grades," 82 per cent of boys and 47 per cent of girls dropped out. The next most likely group (36%) in terms of early dropout rate was boys with average academic performance but high aggression. A third group had an average dropout rate of 23 percent, relatively low grades, and low aggression scores. The other four clusters dropped out at or below the average rate. Cairns and his colleagues noted that the highest dropout groups were severely (economically but also socially) disadvantaged before dropping out.

Researchers in Canada (Janosz et al., 2000) analyzed data from two longitudinal studies, in 1974 and 1985, one looking at delinquency, another at

adolescent psychosocial adjustment. A Euclidean approach called association (or divisive) clustering was used to separate the dropouts into four different clusters based on their dichotomized school experience variables. The classification was first carried out with the 1,985 sample, and then cross-validated on the 1,974 sample. Labels for the clusters were: Quiet (committed to schooling but poor performance, 40% of sample); Maladjusted (low commitment, high misbehavior, low grades, 40%); Disengaged (average on all measures, 10%); and Low Achiever (very low achievement, low commitment, 10%). The researchers used regression analysis to test the model's ability to predict dropout based on the classification. Most (88%) students who graduated were identified correctly, compared to 68 per cent of the Maladjusted, 48 per cent of Low Achievers, 38 per cent of Quiet, and 5 per cent of Disengaged. These results indicate that other, unmeasured, factors contributed to the decision to drop out (particularly for the Disengaged group) (Janosz et al., 2000).

Another Canadian study (Fortin et al., 2006) was based on data from seventh grade students in four high schools in three regions of Quebec. Using a 39-item screening test, some 317 students were identified as at-risk for dropping out. Hierarchical cluster analysis was applied to measures of school performance, family relations, behavior and school climate. Dropouts were classified in four clusters. The first, labeled as Uninterested in School, included 40% of the sample. Members of the group had adequate academic performance but were bored. They appeared to be similar to the Quiet group in the research by Janosz and others (2000). The second largest group, 30% of the sample, was identified as having School and Social Adjustment Difficulties. They had the lowest academic achievement and high behavior problems. They appear as similar to the Maladjusted group in the 2000 Janosz study. The third group, Antisocial Covert Behavior (19%), was characterized by adequate academic performance, minor behavior problems and depression, and a bad family situation. The last and smaller group (11%) was labeled Depressive. These students lived in low cohesive families but had no behavioral issues.

None of the classification studies reviewed above followed dropouts to assess their later educational experiences. We found only one study that reported on re-enrollment (re-engagement) of students who had dropped out. The American researchers (McDermott et al., 2018) identified a group of 1,942 youth 18 to 25 years of age who had dropped out at least one semester from high school. Some had returned and eventually graduated, others had not. The participants answered a survey questionnaire describing their background, experiences in school and reasons for dropping out.

Latent class analysis was used to identify types or classes of respondents.[1] The class called "Quiet Dropouts" (58%) were those who enjoyed support

from family, peers and teachers, with no push or pull factors. "High Adversity" students (3%) had family and peer support but suffered a variety of push and pull factors. The "Instability" group (39%) was composed of students who faced poor social relationships, family economic or social difficulties and geographic mobility. The authors noted that their analysis offered little indication of why students in the Quiet group leave school. The Instability group included students most likely to suffer emotional disturbances that make compliance with school procedures and discipline difficult.

The researchers then noted how many of each group had returned to some form of schooling. Among the three classes, High Adversity dropouts were most likely to return. Most indicated that someone (parents, peers, and teachers) had encouraged them to do so. Members of the Quiet or Instability classes were significantly less likely to seek any form of education. Among those that did, the Quiet members were most likely to re-enroll in a school, while the Instability dropouts were more likely to take the American high school equivalency examination (GED). The Quiet people who re-engaged were more likely to state they did so because they needed more education or training to get a good job. Their Instability counterparts who went back to school were more likely to report that they had been encouraged by someone to do so, usually someone outside their family (McDermott et al., 2018).

Research Hypothesis

Dropouts who do re-engage (by enrolling in a second chance school) are a sub-sample of all dropouts, and perhaps not representative of the total. The fact that they have re-engaged, and other dropouts have not, suggests that they are affected by a unique set of factors. For that reason, we assumed that the classes of dropouts identified in this study would differ in some ways from the types found by previous studies (which sampled all dropouts). We also assumed that, in Chile as demonstrated elsewhere, the set of factors associated with dropping out before high school differs from the set associated with withdrawal while in high school.

Our objective was to identify features or activities of the Second Opportunity Centers which engage students. We wanted to determine how types of (former) dropouts differ in the experiences and activities. We formulated these two hypotheses to explore our interests.

Hypothesis 1: The background characteristics and current activities of students who first failed before high school (basic or primary education) differ from those of students who first failed in high school. Previous research had suggested that early failure was associated primarily with

low academic ability while later failure was more common in youth facing economic, social and psychological difficulties as well.

Hypothesis 2: The classes of students will differ in both their level of overall satisfaction with their current schooling, and in their choice of activities in which to participate.

Method

Universe and Sample

The sampling frame was constructed with technical assistance from the Ministry of Education, using 2016 statistical data. Earlier studies (Ministerio de Educación, 2013) reported that dropouts in Chile were distributed proportionately across the 15 geographic regions of the country. From each region we randomly selected one Second Opportunity Center, and four from the Santiago Metropolitan area (which serves about one-third of all secondary students). Of the 18 centers selected, 16 are in cities with populations greater than 100,000, considered functional urban areas by OECD (2019). Two centers are located in isolated towns or cities associated with an extraction industry (mining, fishing).

We then randomly selected students from each Center in proportion to its total enrollment. The resulting sample included 1,112 youth between 14 and 18 years of age. About 80 per cent of the students had previously been enrolled in public schools, and most of the remainder in subsidized private schools that do not charge additional fees. The data from this sample are assumed to be accurate at the 95% confidence level with a sampling error of 2.88 per cent.

Variables Used in the Analysis

The questionnaire, administered in each participating center, took approximately 30 min to complete. The first eight questions asked about the student's family and living conditions at home. The next 14 questions were specifically about the student, covering gender, age, ethnic group, current activities, and relationships with other persons. The remaining 10 questions asked the student to assess his/her experiences in the Center. There were no missing answers to any of the questions reported in this analysis.

Latent Class Analysis

The typology constructed for this study was the result of a latent class analysis using Latent Gold 5.1 software (Vermunt & Magidson, 2016). The latent

class analysis approach differs from factor analysis and cluster analysis groups persons rather than variables (Magidson & Vermunt, 2002). The group of students is referred to as a latent class. The procedure has been applied effectively in education to identify the what persons who have failed or withdrawn from school have in common (Denson & Ing, 2014; Lawson & Lawson, 2013; McDermott and others, 2018). It has also been used in research in medicine, engineering, manufacturing and the social sciences (Collins & Lanza, 2009; Kongsted & Nielsen, 2017; Palardy & Vermunt, 2010; Vermunt, 2010). Apart from the software used for Latent Class Analysis (described below) all calculations were carried out using SPSS Statistics 23, principally mean differences, correlations, cross-tabular analysis and One Way Analysis of Variance.

Table 1 presents characteristics and questionnaire responses of the student arranged by the size of the city in which they live. Male and female students participating in the survey were similar in age, living conditions, and ethnic identity. They had the same frequency and type of handicaps (principally vision and ability to concentrate). They differed significantly only in respect to the level of education of their mother or guardian; the mothers of males were more likely to have had some secondary or higher education.

As Table 1 indicates, girls in smaller cities are more likely to drop out than are boys (69% in the two towns of less than 100,000, compared to 53% in Santiago, $p = .002$). There is no relationship between city population and whether they live with both parents. Students living in smaller cities more likely to drop out before the ninth grade ($X^2 = 28.21, p = .000$). The number of personal handicaps students report, and whether they state they are indigenous, is highest for medium-sized cities (200–300,000) but lower for larger and smaller. The relationship between city size and number of times repeated is statistically significant but non-linear, as is the relationship with reporting difficulty in concentrating.

A similar pattern is observed for the relationships between city size and responses to the questions about goals for the future, difficulties at home, and discrimination. For many of the specific questions, answers vary across cities of different size, but it is difficult to identify a consistent pattern, implying that different groups or types of dropouts have had different experiences, no matter the size of their city. For that reason we turn to a classification procedure that identifies groups of persons who share similar values on a set of variables.

Latent class analysis is most effective when all included variables are independent of each other (Schreiber, 2017). Accordingly, we constructed seven different models using different numbers of variables. We then examined the bivariate residuals to assess independence. One by one we eliminated one of each pair of variables that had residual values greater than 2.00,

which is an acceptable upper limit (Palardy & Vermunt, 2010). Perhaps the most critical variable excluded was gender. Boys and girls have very different experiences in their lives which affect their responses to many variables; by excluding gender we make it possible to identify those experiences and their effects. Several of the questions permitted multiple answers (e.g., "What kinds of discrimination have you experienced?"); for these we combined answers to create index or summary variables.

We ended up building the latent class model using responses to five questions: 15, 20, 21, 22, and 14 (shown in Table 1). Two of the variables were re-coded as dummy variables (No = 0, Yes = 1): "Are you currently employed?, 20 per cent Yes"; and "What do you want to do in the future?" answered as "Earn more money," 41 per cent Yes. There were three multiple response questions: "Which of these situations has occurred in your family?"; "Have you felt discriminated against?" and "Do you have any of the following permanent conditions?" For each question we used the sum of the affirmative answers. Table 2 shows the bivariate residuals for the five variables.

The latent class analysis software can construct models with different numbers of classes. We constructed models with 3, 4, and 5 classes, consistent with other research on dropout typologies. There is no consensus among statisticians as to how many classes are best, nor which specific measure is best for assessing the quality of a model. The software generates several different measures that are used to assess the reliability or reproducibility and the predictive validity of the model generated. We examined the logarithm of the Likelihood ratio, the statistical significance of the ratio, and the Bayesian information criterion (BIC) (Nylund et al., 2007) to assess reliability. Table 3 contains the results of the evaluation. The 3-class model is an acceptable model but combines groups of dropouts that have had quite different experiences. In order to see more distinct groups, we chose to use the 4-class model. This has a BIC value very close to the 3-class model, as well as a classification error only slightly higher but a lower likelihood ratio. All bivariate residuals are lower than 2.00.

Results

The first step in the analysis was to establish the distinguishing features of the four classes of students. Table 4 includes the mean scores of each class on the five constituent variables. The first two variables were constructed to have values of 0 or 1. The next three are counts of the number of options chosen in response to the question. Note that no students chose all of the options for the last two questions. The variability in the loadings on the five factors makes clear that the groups of students are alike in some ways, but different in others.

Table 1. Percent of Participants' Responses by Size of City in Which Second Opportunity Center is Located.

Population of city (%)

Question and Answer	<100,000	100,000 to 200,000	200,000 to 300,000	Santiago 5,600,000	N	Sig. Diff. p
Gender—Male	69.0	50.7	54.9	52.9	614	.002
Mother's education						
Primary or less	28.5	34.4	38.2	34.9	384	.284
Secondary	56.3	46.0	45.1	48.2	535	
Post-Secondary	15.2	19.6	16.7	16.3	190	
Participant lives with						
Both parents	32.9	30.4	34.7	35.5	374	.187
Mother only	42.4	49.6	38.8	38.8	467	
Age						
13 to 15	23.6	31.5	19.9	20.8	262	.000
16	31.0	26.4	24.9	19.7	272	
17 to 18	45.6	42.0	55.2	59.6	578	
Handicaps						
None	55.1	58.7	64.7	46.5	622	.001
One of original people	8.2	17.1	25.6	13.3	191	.000
Times repeated a grade						
Never	3.2	15.2	16.7	7.2	127	.000
Once	8.9	16.7	24.0	18.6	203	
Twice	45.6	33.0	35.3	29.6	382	
Three+	41.8	35.1	24.0	44.6	400	

(continued)

Table 1. (continued)

Population of city (%)

Question and Answer	<100,000	100,000 to 200,000	200,000 to 300,000	Santiago 5,600,000	N	Sig. Diff. p
Q. 14. Which of these conditions or difficulties do you have?						
Seeing	19.0	22.5	16.4	19.9	216	.313
Hearing	1.3	1.8	2.5	2.2	23	.812
Speaking	1.3	0.4	1.9	1.9	16	.336
Moving, walking	2.5	2.5	4.4	1.9	32	.261
Intellectual limitations	0.6	1.8	2.5	1.9	21	.562
Concentrating	27.8	20.7	18.3	34.9	283	.000
Total N	158	276	317	361	1,112	
Q. 15. Currently not working	77.8	76.4	80.4	83.1	889	.185
Q. 20. What would you like to do in the future?						
a. Earn more money	31.6	39.9	43.2	45.2	460	.029
b. Get a good job	36.7	52.5	41.0	39.6	426	.002
c. Finish high school	17.1	25.7	23.3	24.4	260	.209
d. Only be with my friends	31.0	22.5	36.0	30.5	335	.005
e. Study in the university	10.5	25.0	17.4	17.5	204	.022
f. Realize myself as a person	2.5	13.8	7.3	8.3	95	.001
g. Form a family	10.1	17.1	12.9	13.9	155	.177
h. Earn a technical or professional degree	7.0	16.7	12.6	9.4	129	.003
i. Change neighborhoods	1.9	2.9	10.1	2.2	51	.000
j. Own my own home	5.7	16.7	12.6	9.4	129	.003

(continued)

Table 1. (continued)

Population of city (%)

Question and Answer	<100,000	100,000 to 200,000	200,000 to 300,000	Santiago 5,600,000	N	Sig. Diff. p
Q. 21. Which of these situations have you experienced at home?						
a. Lack of communication	31.6	36.6	43.2	45.2	451	.011
b. Economic problems	36.7	47.1	41.0	36.9	461	.131
c. Problems with alcohol	7.6	11.6	15.1	13.6	141	.113
d. Bad relationships between parents and children	17.1	19.6	23.2	24.4	243	.195
e. Lack of time spent together	31.0	26.8	36.0	30.5	347	.116
f. Bad relationships among children	10.8	12.7	17.4	17.5	170	.098
g. Physical or psychological abuse	2.5	5.8	7.3	8.3	73	.090
h. Personal drug use	10.1	9.4	12.9	13.9	133	.295
i. Drug use by others	7.0	7.2	13.2	13.6	122	.013
Total N	158	276	317	361	1112	
Q. 22. In what ways have you experienced discrimination?						
a. For my sex	1.9	0.7	10.1	2.2	45	.000
b. For my age	5.7	6.5	12.6	9.4	101	.026
c. For my social class	5.9	9.8	17.7	11.6	134	.001
d. For where I live	5.7	9.4	13.6	11.4	119	.058
e. For being a student	3.8	6.5	10.4	6.1	79	.036
f. For my physical appearance	17.1	17.0	19.2	24.1	222	.099
g. For belonging to an original people	0.6	2.2	1.5	1.4	16	.604
h. For being a foreigner	1.3	1.4	0.6	3.3	20	.054
i. For my sexual identity	1.3	2.5	5.7	1.7	33	.007
Total N	158	276	317	361	1,112	

Table 2. Bivariate Residuals from 4-Class Model.

Variables	1	2	3	4
15. Not working				
20. Not earn more money	0.0009			
21. No family situations	1.4422	0.2351		
22. No discrimination	0.0515	0.015	0.3366	
14. No handicaps	0.2625	0.0000	0.0957	0.7530

Table 3. Model Fit.

Model	LL	BIC(LL)	Npar	L^2	Df	p-value	Classification error
3-class	−5211.29	10668.07	35	626.30	1,077	1.00	0.1107
4-class	−5191.42	10670.40	41	586.55	1,071	1.00	0.1357
5-class	−5185.97	10714.60	47	575.66	1,065	1.00	0.1833

Note. Evaluation Information 4-Class Model.

Table 4. Average Score of Each Student Class On Defining Variables 4-Class Model.

	Class			
Variables	1	2	3	4
15. Working (0–1)	0.76	0.90	0.71	0.88
20. Work, Earn Money (0–2)	0.25	0.64	0.86	0.02
21. Family Situations (0–9)	1.37	1.79	4.72	0.00
22. Discrimination (0–9)	0.57	0.42	1.70	0.09
14. Handicaps (0–4)	0.57	0.40	0.83	0.25
N	450	239	232	191

About 24 per cent of students included in Class 1 are currently working. Their objective for the future is not, however, necessarily making more money. Half of this group choose "Get a good job" as their future objective, 30 per cent chose "Just be with my friends," about 15 per cent chose "Study in the university" or "Finish basic and secondary school" and smaller proportions chose the others (summing to more than 100 per cent). Values of the other three variables fell in the middle range. This group may not have well-defined future objectives. Perhaps they are, similar to the Quiet category of previous research, somewhat unconcerned about their lack of academic progress.

Class 2 is similar to Class 1, except that almost all members of this class chose "Earn more money" as their objective for the future; none of the other options were chosen by more than 27 per cent of the class. Less likely to have a job, 97 per cent chose "Lack of communication" as a family situation, with other situations chosen by about 20 per cent. Some 38 per cent indicated they have trouble with concentration. This class appears to be focused primarily on their immediate future, to be indifferent toward school.

The variables that identify Class 3 are similar to those in Class 2, but scores are higher. Twice as many have jobs, but perhaps they feel they are badly paid, as earning more money is a prime objective, most likely as a way out of their present situation. A high percentage (64%) chose finishing basic and secondary education as an objective, but an equivalent number chose "Just be with my friends." They see their home situation as especially uncomfortable, not only because of a "lack of communication" but also because of "economic problems," "no time for sharing," and "bad relations between parents and children" and between siblings. Drugs and alcohol use are reported by more than 30 per cent. More than twice than any many as any other group (30%) indicated "form a family" as an objective. This appears to be the most troubled group among the students in the Second Opportunity Center, like the High Adversity category in previous studies. The Center offers them a way out of their difficulties.

The fourth class of students is defined more by its similarity to students who remained in school. They report fewer family difficulties than other dropouts, fewer personal handicaps, almost no discrimination by others, and no desire to earn more money. In addition, membership in this class is not related to Parents' Education, economic status of the home, age or gender. In short, this class of students is Normal (in the statistical sense).

Do the classes of students vary in frequency according to the size of the city in which they live? Table 5 compares the proportion of students in each class according to city size. Overall, the distribution of students is significantly different from chance ($p = .009$), the only notable difference is for Class 3 students, more frequently found in larger cities and the Santiago metropolitan area. Class 3 students experience more negative situations in their families, have experienced more discrimination, and are more likely to report difficulties in concentrating.

Level at Which Student First Failed and Dropped Out

The objective of the first stage of analysis was to determine whether students who failed one or more times and withdrew during the first 8 years of their schooling (in Chile referred to as Basic education) are different from those

Table 5. Frequency (percent) of Each Student Class According to Size of City Where Center Located.

	Class				
Population of city	1	2	3	4	N
<100,000	16.9	12.1	9.1	16.8	158
100,000 to 200,000	24.8	19.4	26.7	27.6	276
200,000 to 300,000	26.0	25.5	34.5	30.9	317
Greater Santiago (5.6 million)	32.2	33.9	37.1	25.7	361
N	450	239	232	191	1,112

Note. $X^2 = 21.93$, $p = .009$.

who did not fail a grade or leave until in secondary school. Some students started failing at the end of the second grade; one-third of the sample had stopped going to school by age 13. Boys are more likely to fail and to leave Basic education before girls, as are children living with only one parent (Fisher's Exact Test, 2 -sided, $p = .009$). These differences are statistically significant but none of the other variables are associated with dropping out before high school.

Satisfaction (Engagement) with the Center

The students were asked to rate nine aspects of the Center. Table 6 shows the correlations between the items. Given the large sample, all are statistically significant at $p < .000$, but there are wide differences in the correlations. Cronbach's alpha for the nine items was .837. This moderately high value suggests that a scale based on all items would be reliable. Cluster analysis included all items in a single cluster.

Average responses on the satisfaction questions (using 5-point Likert style scales) are summarized in Table 7. Ratings were most positive for professors and monitors (aides), and lowest for facilities. Responses were skewed toward the positive end of the scale. The average on this scale (2.22) indicates that about half of the sample is positively inclined toward the program; the standard deviation reflects the skewed distribution.

Class 1 is the most positive in their ratings (mean = 2.14) while Class 3 is the least positive (mean = 2.38); classes 2 and 4 are in between. The mean differences for the four-class comparison are highly significant ($F = 9.19$, $p < .000$). Class 3 appeared to be the most highly stressed of the four. If lower Satisfaction portends future withdrawal from the Center (as suggested by previous research on dropouts), then students in this class should receive

Table 6. Correlations of Ratings of Different Elements of the Center.*

Q. 23. How do you rate the following aspects of this place	a	b	c	d	e	f	g	h
a. Classrooms								
b. Computer labs	0.419							
c. Professors' ability to listen	.0441	0.379						
d. Professors' ability to solve problems	0.381	0.326	0.659					
e. Director	0.386	0.245	0.352	0.371				
f. Professors or monitors	0.410	0.350.	0.570	0.569	0.428			
g. Social workers, Psychologists	0.363	0.385	0.419	0.412	0.338	0.473		
h. Classmates	0.282	0.209	0.289	0.270	0.189	0.247	0.271	
i. Administrative staff.	0.363	0.294	0.324	0.346	0.340	0.454.	0.446	0.302

Note. *1 = Very Good; 2 = Good; 3 = Neither Good nor Bad; 4 = Bad; 5 = Very Bad.

Table 7. Level of Satisfaction with Elements of Center.

	Average (1 = very good, 5 = very bad)	S.D.
How do you rate the following aspects of this place?		
Classrooms	2.31	0.85
Computer lab	2.45	1.01
Capacity of professors to listen to us	2.14	0.90
Capacity of professors to resolve problems	2.25	0.94
How would you rate the performance of the. . .		
Director	2.25	1.02
Professors and monitors	2.04	0.79
Other professionals (social worker, psychologists. . .)	2.22	0.90
Administrative personnel (secretaries, aides. . .)	2.45	0.85

more attention than others. Both class membership and Satisfaction levels are unrelated to gender or age.

Participation in Center Activities

Students were asked about their activities in the Center. Table 8 presents participation rate by gender. Slightly more than 25 per cent of students participated in no activities, 56 per cent participated only in one. The options

Table 8. Participation in Center Activities, By Gender.

	Girls		Boys		
Activities in center during this year	N	%	N	%	p =
Recreational and sports activities	115	20.9	216	35.2	.000
Psychological and social support workshops	104	20.9	110	17.8	.121
Artistic workshops	63	12.7	78	12.7	.527
Workshops to practice a trade or craft	77	15.5	74	15.7	.225
Other extracurricular workshops	87	17.5	115	18.8	.322
Total	498		614		

included sports and recreational activities in which 29.8 per cent of the respondents participated, males more frequently. Four kinds of workshops were offered: those that discuss social and psychological issues (19.2% participation); those with training in arts and crafts (12.7%); classes that taught skills related to a specific trade or job (14.5%); and other extracurricular workshops (18.5%). Participation in these activities varies significantly by Class only in respect to the Arts workshops; Class 3 was more likely to participate in this activity ($p = .003$) (Table 9).

All 18 urban centers offered each of these activities except for one which apparently does not offer training for specific trades or jobs. At the same time participation rates for each of the five activities vary significantly across the Centers. This can be taken as evidence for variation in students' choice of activity or, alternatively as indicating that Centers vary in how many students can participate.

The more different kinds of workshops in which a student participates is associated with higher levels of Satisfaction ($r = 0.195$, $p = 0.01$), but relatively few students attended more than one type; 28 per cent did not join any and another 56 per cent only one. Table 10 indicates that students who have participated in psychological and social workshops, and in those involving art, are more approving of (all elements) of the program than are students who have not participated in those activities. The workshops that address psychological and social issues are most highly rated by Class 3. Participants who have attended workshops to train in a craft or a specific job are not necessarily more enthusiastic about their Center, nor are those who have been in other kinds of workshops or those who are active in sports and other recreation.

Evaluation of Services Provided by Center

The questionnaire asked students what the Center did to keep students from deserting; five alternatives were provided; students could choose more than

Table 9. Participation Rate in Center Activities, By Activity and Class.

Activity	Class 1	2	3	4	Total
Sports and recreation	28.9%	30.1%	34.5%	25.7%	29.8%
Psychological and social help Workshops	19.8	17.6	21.6	17.3	19.2
Arts and crafts workshops	13.6	7.9	18.5	9.4	17.2
Workshops to practice a craft	15.1	15.5	17.2	8.4	13.5
Other workshops	20.0	18.0	16.4	16.2	18.2

Table 10. Average Satisfaction Scores of Participants, By Activity and Class.

Activity	Class 1	2	3	4
Sports and recreation	2.07	2.19	2.42	2.16
Psychological and social helps	2.03	2.02	2.08	2.01
Arts and crafts workshops	1.99	2.00	2.24	2.14
Workshops to practice a craft	1.93	2.13	2.14	2.18
Other workshops	2.15	2.19	2.24	2.05

Note. 1 = Very Good; 5 = Very Bad.

one. For each of the five alternatives, students who mentioned them were more highly satisfied than those who did not. Table 11 reports the proportion of each Class that mentioned the service provided. Class 3 students mentioned all the services more often than the other Classes; the difference in rate of mention is statistically significant only for the first service, that the Center helps students with family problems. The difference in mention is only barely significant for helping students with bad conduct.

Discussion

The analysis does not confirm the results of earlier studies in the United States and Canada (Fortin et al., 2006; McDermott et al., 2018) which found that students withdrawing in early grades differ from those who withdraw in later grades. In this study, students who first withdrew from school before eight grade are similar in most background characteristics to those who withdraw later. Only boys are more likely than girls to have withdrawn in the Basic level. Earlier US studies reported that family stability and parental education were strongly related to persistence in school (Rumberger & Lim,

Table 11. Helps or Services that Center Provides, Percent Students Acknowledge.

Class	N	Helps students with family problems	Helps students with bad conduct	Helps students with low grades	Talks with parents and guardians	Recreational and cultural activities
1	450	44%	35%	46%	38%	21%
2	239	41	37	46	36	19
3	232	57	44	53	43	25
4	191	35	32	48	34	15
Total	1,112	45	37	48	38	20
F	$p =$	7.939 .000	2.606 .050	1.391 .244	1.426 .234	1.976 .116

2008). In Chile these factors are only slightly related to age of first failure and not at all to engagement in an alternative education program.

The collection of youth 14 to 18 enrolled in Chile's Second Opportunity Centers, even though they are a self-selected fraction of the total number of dropouts, are heterogeneous in terms of the explanations for their early withdrawal from school. Their heterogeneity may be related to their urban residence, as reported from American students in the Los Angeles area (Gottfried, 2013). The study proves that it is possible to identify four distinct groups or classes of students with relatively little information about them. No school-based data or public records information (which would be more time-consuming to compile) was used. Five variables describe aspects of the respondents' current life. They include two pull variables related to employment, two variables related to earlier academic experiences, and one "protective" variable characterizing the level of support or stress in the student's home environment.

The results indicate that some elements of the Centers' program appear to be unrelated to the interests of any of the four classes of students. One program element is sports and recreational activities. These may be appreciated by many adolescents (especially male) but, as they are available elsewhere, they may contribute nothing to the student's academic persistence. On the other hand, given what previous research has said about the psychological difficulties of many dropouts, and the evidence that attention to psychological issues contributes to student satisfaction with the Center, even more effort might be placed in enrolling students in workshops that help students to manage their anxieties and fears, and perhaps to feel better about themselves (Flennaugh et al., 2018). Their attraction for Class 3 students especially can be taken as evidence of their perceived value. The various services and helps

provided by the Center are another important activity contributing to satisfaction (and therefore to persistence). Once again, the "neediest" group, Class 3, is especially impacted by participation in these activities.

If the overall effect of enrollment in the Center was equivalent for each Class of students, we could expect their levels of satisfaction to be roughly equal. But this is not true. Class 1, which was characterized as relaxed with respect to its academic progress, is the most satisfied with the Center. Class 3, on the other hand, which is experiencing a more difficult life than others, is the least satisfied. If we interpret that lower level of satisfaction reflects a desire for more of certain Center activities, then the Center might consider increased time on psychological and social support workshops and working directly with these students. How to motivate the Class 1 students to work harder on their academics is less clear. Students who currently are employed are more enthusiastic about the program than those who are not. Prior studies have found that engagement with school is lower for students working more than 20 hr per week (Rumberger & Lim, 2008); our study did not determine hours of work. Satisfaction and engagement are greater for students who participate in (some of) the workshops offered by the Second Opportunity centers. This confirms the second hypothesis and emphasizes the importance of varying educational programs to match students' characteristics.

Other research (e.g., McDermott et al., 2018) has demonstrated the usefulness of measures of psychological characteristics in matching content and instructional practices with recovery programs; the results of this study suggest that much can be gained even by classifying students on the basis of more conventional indicators, such as family and community background characteristics. The critical step in fitting the Center program to each student is to attend to individual differences. Finally, the results indicate that programs that focus attention on social and emotional issues is more likely to result in student persistence to graduation than are sports and recreational programs.

Limitations of this Study

Sample

Most research on school success and failure has focused on the great majority of students who remain to graduation. Those who do not complete, who leave early, are a minority. Programs intended to re-engage out of school student attract only some of that already reduced group. We cannot, therefore, expect that the students enrolled in recovery or re-engagement programs like the Second Opportunity Centers of Chile match the descriptions

applied to dropouts in general. Unfortunately, little research has yet been done to understand this special population. There is little to guide research in the design of studies to explain how a re-engagement center should operate to be most successful. An important research topic would be the factors that lead some dropouts to seek re-engagement, and others not.

Although the results of this study are promising, they may be specific to Chile. The various typologies that other studies have generated are similar to that reported here, but far from identical. Several factors might explain differences. First, analytic techniques are susceptible to variations in universes and sampling procedures; how a student is classified varies significantly as a function of how many classes are included in a typology. Second, social, economic and cultural differences could contribute to variations in typologies. Third, the typologies were constructed using widely different types of information about the dropouts.

Enrollment in the Centers was voluntary, and their existence known by an unknown (but probably small) proportion of eligible youth. The reliability of estimations of the total size of the eligible population (of youth 14–18 not attending school) is not established, nor is the distribution of that population within Chile.

Data

The information collected tells us about students, but little about the institutions in which they are studying. The study tells us about students' backgrounds, behaviors and ambitions, but little about the specific actions or characteristics of the Second Opportunity Centers that might affect those behaviors or ambitions.

Given the brief history of these students in the Second Opportunity centers, we have no data on their academic achievement. This study has focused solely on identifying factors that may maintain their persistence in the pursuit of a diploma. It provides no assurance that those factors will also contribute positively to the students' graduation. Future studies should collect detailed information about the specific communities in which students live, identifying elements of those communities that may have a specific effect on the student's persistence in school.

Conclusion

In Chile as elsewhere urban poverty makes it much more difficult for people to learn. From birth poverty limits the ability to understand what others mean by their speech and their actions. Poverty contributes to malnourishment and

consequent poor health, low energy levels and pain. Children growing up poor in the city experience a great deal of instability, in personal relationships and in their conditions of living. The high level of uncertainty they experience makes it difficult to form, test and hold conclusions about what behaviors are effective for achieving their objectives and which are not. In school, they are confronted with a level of order and discipline that requires considerable self-understanding and self-control. For many of these children, school must seem irrelevant for the world to which they expect to return. In order to be at all relevant or useful to these students, the Second Opportunity Center has to offer something exciting enough to hold their attention yet ordered enough to allow them to assimilate its lesson.

It is possible to distinguish types of dropouts based on information collected using a short, low-cost questionnaire that surveys family and friendship relationships and school experiences. The typology generated approximates that produced using much more sophisticated and expensive methods. Both the present and previous studies confirm the perspective that withdrawal from school is a process that develops over time, some with factors acting to increase the likelihood of dropping out, and others reducing that likelihood. The results suggest therefore that dropouts can be encouraged, by events in their environment, to continue and complete their education. The results also suggest, but do not prove, that the events or interventions that will be most effective in maintaining or increasing student engagement in education will vary according to which type of dropout they are.

The results of this study suggest that future research (on alternative schooling) should shift its emphasis from factors that led to dropping out, to analysis of current and future events that impact current students' engagement (both in traditional and Second Opportunity) schools. Future training of teachers, in conventional as well as in Second Opportunity Centers, should expand candidates' knowledge and skills required to assist all heterogeneous youth in realization of their potential (Milner, 2006). The results of this study are one more suggestion that effective education is made possible by adapting instruction to the learner rather than requiring conformity to the school. The possible gain from a shift from schooling to educating is enhancement of our diversity with all the social, political and economic benefits that will yield.

Although limited in scope, this study makes two basic contributions to the study of methods to serve students who did not thrive in traditional schools. It reaffirms the diversity of youth who withdraw from school. Few are incapable of learning; their failure is caused primarily by factors external to their academic endeavors. Their poor performance in school occurred only when other aspects of their lives restricted their ability to engage in learning.

   Interventions to help students to re-engage with learning have to mitigate or eliminate those failure-inducing aspects. This study demonstrates, perhaps for the first time, that what works for some groups or types of dropouts, will not work for others. Classification is useful for forming groups of students with similar characteristics, who may respond positively to specific interventions and activities of the Center in which they are enrolled. Working with groups is more feasible than working with individuals. With more research, a larger proportion of the dropout population can be re-engaged. If this strategy is successful, we would then have the basis for a profound redesign of all schooling.

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Note

1. The procedure is described in the Method section.

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