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# School Choice and Inequality in Educational Decisions 

Mauricio Farias<br>Fundación Chile


#### Abstract

School choice has been growing all over the world. However, despite the strong implications school choice could have on future opportunities, the understanding of the mechanisms underlying the school decisions are still not clear. Based on elements from different theories, this paper study factors related with a school- track choice. The study takes advantage of extensive administrative records, national tests, and an ad-hoc survey from Chile, a country with more than 30 years with an educational system based on choice. Results suggest that socioeconomic status, cultural values, the pressure of the environment, parents' expectations, and selfperception are correlated with the school-track choice. Results suggest that the concept of equality of opportunities in an educational system based on choice should also consider equality in the capacity for taking these decisions.


Keywords: school choice, vocational education, human capital, cultural capital, social capital

# Elección de Escuela y Desigualdad en lasDecisionesEducativas 

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## Resumen

La elección de escuelas ha estado creciendo por todo el mundo. Sin embargo, a pesar de las fuertes implicaciones que la elección de escuelas podría tener en oportunidades futuras, el conocimiento de los mecanismos subyacentes a las decisiones educativas todavía no está claro. Basado en aspectos de teorías diferentes, este ensayo analiza factores relacionados con la elección de escuela. El estudio (literalmente dice "se aprovecha") se sirve de los amplios (literalmente: extensos) registros administrativos, pruebas nacionales, y una encuesta ad hoc de Chile, un país que lleva más de 30 años con un sistema educativo basado en la elección. Los resultados sugieren que el estatus socioeconómico, los valores culturales, la presión del ambiente, las expectativas de los padres, y la autopercepción se correlacionan (tienen una correlación) con la elección de escuela. Los resultados sugieren que el concepto de la igualdad de oportunidades en un sistema educativo basado en elección también debería tener en cuenta la igualdad en la capacidad de tomar estas decisiones.

Palabras clave: Elección de escuela, educación profesional, capital humano, capital cultural, capital social

School choice has been growing all over the world. However, despite the strong implications school choice could have on future opportunities (Kirst \& Venezia, 2004), the understanding of the mechanism underlying the school decisions is still not clear. This decision could be particularly harmful for high-performance low-income students with high academic expectations (Farias \& Carrasco, 2012). In this paper I analyze how these students choose school and track at the end of eighth grade in Chile. ${ }^{1}$ I found that cultural and social factors are strongly correlated with the decision, suggesting that choice systems require considering these factors in order to be more equitable.

In order to better understand the factors that affect decisions, I use the theories of human capital (Becker, 1964; Schultz, 1963), cultural capital (Bourdieu, 1986; Bourdieu \& Passeron, 1977), and social capital (Coleman, 1988; Putnam, 1995). I also employ elements from developmental theories and school choice theories to enrich the analysis (Schneider, M., Elacqua, G., \& Buckley, 2006; Chumacero, Gómez \& Paredes, 2011; Tedin \& Weiher, 2004; Chubb \& Moe, 1990; Saporito \& Lareau, 1999; Bosetti, 2004).

The literature is extensive but limited. Many studies are only observational and restricted to small samples (e.g., McDonough, 1997). Others focuses on career decisions made at the end of secondary school (St. St. John, Hu \& Fisher, 2011; Gao, 2011), and there are still discussions about the effects of social class on mobility (Boudon, 1974; Erikson \& Rudolphi, 2010). Finally, many Chilean studies explore how families choose between private and public schools (Chumacero et al., 2011; Schneider et al., 2006; Gallego \& Hernando, 2008).

Using rich census data gathered at the individual level (including test scores and surveys), this paper will shed light on the factors related to the school-career decision at the end of eighth grade in Chile. The school
decision is mixed with the choice between Vocational Education at Secondary Level (VESL) and Academic Education at Secondary Level (AESL).

The study answers the question: What are the factors that explain the choices high-performing, low-income students make about attending either VESL or AESL schools in Chile?

I address this question, by studying the following questions:

1. Do cultural factors affect students' decisions?
2. Do social factors affect students' decisions?
3. Do these factors change when considering the interaction between the VESL/AESL career decision and the type of school decision (public/private)?
4. Does the impact of these factors change when analyzing highperforming students?

## Literature

One of the most popular explanations for educational decisions is human capital theory (Becker, 1964; Schultz, 1963). Human capital can be understood as the stock of knowledge and skills that produces economic value. In this theory, the individual chooses her most profitable level of education based on elements such as abilities; information; costs and benefits of the decision; risk aversion rate; and personal preferences. Failure to satisfy the basic assumptions of this theory could affect the decision process. In particular, lack or high cost of information, imperfect financial markets, or non-rational behaviors could lead to suboptimal decisions. The failure of these assumptions is particular prevalent among poor students. For instance, a higher discount rate could reduce the decision horizon, thereby reducing the available alternatives (Shapiro, 2005); financial restrictions may limit schooling opportunities (Mare, 1980; Carneiro \& Heckman, 2002); and access to more and better information could allow low-income
families to choose better schools with higher test scores (Hastings, Kane, \& Staiger, 2007).

Another important literature builds on cultural capital theory (Bourdieu, 1986; Bourdieu \& Passeron, 1977) and social capital theory (Coleman, 1988; Putnam, 1995). These theories suggest that culture and networks mediate decisions. Cultural capital is an embodied state, related to the "longlasting disposition of the mind and body" (Bourdieu, 1986, p. 243). This is the knowledge, the culture, the traditions, and the "habitus" that are inherited during long periods of time that schools do not teach but are transferred by families. They are embodied in the person itself, in her attitudes, words, and choices. The most valued cultural capital is that embodied by upper class which allows upper classes to maintain their status and privileges. "Habitus" refer to those actions, beliefs, or perceptions done or used systematically without other rationality than being acquired from the family. The cultural capital of family, friends, school, and community exerts strong influences on students' achievement (Carnoy, 2007; DiMaggio, 1982) and career choices (McDonough, 1977; St. John et al., 2011).

The concept of social capital is defined as "social networks, norms and sanctions that facilitate co-operative action among individuals and communities" (Halpern, 2005, p.39). Elements such as family networks and trust can affect both access to information and choices. Networks could influence decisions by imposing norms and sanctions to their members; also by increasing the access to information of members (Coleman, 1988; Putnam, 1995). Peers can influence student's achievement (Sacerdote \& Marmaros, 2005) and certainly peers' aspirations also play a role in reenforce student's decisions (Yonezawa, Wells \& Serna, 2002; St. John et al., 2011).

Based on a qualitative study of students at four schools, McDonough (1997) proposes clues about the factors that affect college choice: i) a student's cultural capital affects the level and quality of the college chosen; ii) college choice may be affected by the habitus of family, friends, school,
and community; and iii) the student makes decisions between possible alternatives using a process of "bounded rationality" 2 constrained by cultural norms and habits.

The school choice literature mirrors the different views presented above. Most of this research has focused on clarifying whether parents make choices based on quality. Some authors argue that parents are strongly influenced by school quality; therefore choice and competition increase the quality of the entire system (Schneider et al., 2006; Chumacero et al., 2011; Tedin \& Weiher, 2004; Chubb \& Moe, 1990). However, other authors suggest that factors such as cultural values or the incapacity to make good choices could affect this decision, restricting the effect of competition on quality (Saporito \& Lareau, 1999; Schneider et al., 2006; Bosetti, 2004). Most of this research looks at elements such as: ability, SES, school type (public or private), distance from home to school, single gender schools, and advice from friends and family that may influence families' school choice (Hearn, 1984; Manski, 1990; Ascher, Frucher \& Berne, 1996; Beattie, 2002; Brown, Duaine \& Associates, 2002; Kirst \& Venezia, 2004; Tolsma, Need \& de Jong, 2010). Research in Chile also considers factors including values (religion), discipline in the school, and copayment (Chumacero et al., 2011; Bassi \& Galiani, 2010; Gallego \& Hernando, 2009; De Iruarrizaga, 2009; Microdatos, 2009; Schneider et al., 2006).

The literature on career choice is extensive and useful (Manski, 1990; Beattie, 2002; Brown et al., 2002). However, it is largely focused on the last years of school. For college enrollment, Manski (1990) found that students rely on estimates of their own academic capabilities. Tolsma et al. (2010) argue that subjective success probabilities are better estimators of student decisions than the real ability measured by previous test scores. Moreover, subjective rates of return and relative risk aversion rates influence students' aspirations, in particular by encouraging the avoidance of downward mobility. Motivation is also important. Yonezawaet al. (2002) argue that students have "tracked aspirations" which could be shaped by race, gender,
parents, peers, school structure, and culture.
A number of studies looking at this decision have also been conducted in Chile. Caceres and Bobenrieth (1994) found that families choose schools based on relative wages, income, and previous information about high school options. De Iruarrizaga (2009) highlighted ability and income as determinants of the decision. In a retrospective survey, Microdatos (2009) found that the main reasons for choosing a secondary school for VESL students was distance, good references, and the specialization in the students' desired career. The main reasons for choosing VESL career were reported to be the acquisition of skills in a specific area, the desired to continue to higher education, and in order to find a job after finishing school. Despite this extensive literature, there is little research that looks at school choice and career decisions simultaneously. Most of the available literature only considers the transition between high school and college.

## The Chilean educational system

The Chilean education is based on a generalized quasi-voucher system established in 1980. The voucher is paid directly to schools, following students' enrollment. This reform allowed families to choose schools. Primary goes from first to eighth grade and Secondary, from ninth to twelfth grade. Officially, students choose a track (VESL or AESL) after tenth grade; however, about half of the population changes school between eighth and ninth grade. This paper looks into this group of students who are at the same time choosing school and track. The decision is free and students can change their decision after having made the choice. About $46 \%$ of all students choose VESL.

The law allows schools to define their own curriculum conditional on certain requirements. VESL schools are required to take 600 instructional hours per year from the four core subjects (language, math, sciences, and history) and allocate them to vocational courses. After secondary school,

VESL students can go on to higher education either at the university level or at a technical higher education institution (VETL).

## Theoretical framework

The literature suggests several factors that could be related to the schoolcareer decision.

Table 1
Factors related to the school/program decision (examples)

| Human Capital | Cultural Capital | Social Capital | Career Choice | Others |
| :---: | :---: | :---: | :---: | :---: |
| - School cost <br> - Abilities (test scores) <br> -Risk aversion rate <br> - Discount rate <br> -Rates of return <br> - Income differences <br> - Distance to school | - Value of VESL <br> - Knowledge about higher education <br> - Preparation for decision <br> - Intention to work <br> - SES (parents' schooling) | - Access to information <br> - Peers' aspirations <br> - Parent's and teachers' aspirations | - Students’ selfperception <br> - Expectations <br> - Academic engagement | - Gender <br> - Race |

The main hypotheses to be tested are:

1. Students with higher cultural capital will choose AESL.
a. More knowledge about higher education will lead to enrollment in AESL.

Knowledge about higher education represents an important part of the cultural capital of a family that affects access to higher education (St. John et al., 2011). Lack of knowledge about higher education and how the system works could increase the perceived complexity of the system and discourage enrollment. For instance, this may increase students' perception of the
difficulty of higher education, leading to inaccurate estimates of the benefits and costs of attendance (Boudon, 1974; Usher, 2005).
b. Students/families that spend more time researching school options will choose AESL.

One of the factors tested is how the family approaches the decision process. The idea of bounded rationality assumes that habits may reduce alternatives (McDonough, 1997). The ability to anticipate and understand the informational requirements for the decision, the capacity to look for information in different sources and to evaluate multiple alternatives could affect the decision made. For instance, Schneider et al. (2006) found that middle-income students make use of choice more frequently than lowincome students. It could be the case that the lack of information leads highperformance, low-income students to loss opportunities to access high achievement schools (e.g., application deadlines or other requirements). I hypothesize that, students who do not prepare well to make this decision (e.g., look for less information, or visit fewer schools) tend to choose VESL. Evidence of less rigorous preparation by Hispanic students was reported by Roderick et al. (2008).
c. Students who tend to value VESL more than AESL will choose VESL.

The way in which students value VESL as a mean to obtain different life goals measures their taste for AESL or VESL, which may in turn be seen as a reflecting their families' cultural capital. ${ }^{3}$ The hypothesis is that elites (economical, political or academic) tend to prefer AESL and that low SES students tend to prefer VESL. These beliefs about VESL influence the final choice. In Chile, Arancibia (1994) found important differences in the value placed on VESL and AESL by SES.
d. Students who prioritize wages over their own career interests will choose AESL.

Preferences can affect decisions (Loeb \& Klasik, 2010) and may be shaped by families' culture and habitus. The hypothesis here is that students who prefer to earn higher wages rather than pursue their career interests will
tend to chose AESL, since this trajectory is associated with higher compensation in the labor market.
e. Students thinking of transitioning directly into the labor force after school are more likely to enroll in VESL.

Similarly to the previous hypothesis, students may think in eighth grade that they will find work immediately after completing the twelfth grade, an attitude that mirrors the culture, the preferences, and probably the SES of the family.
f. Students with economic concerns about higher education tend to choose VESL.

Concerns about future college costs could make students less likely to pursue higher education. In Chile, during 2011, a huge students' strike ask for a free of charge higher education in order to reduce the debts that low income students acquire in higher education. The high cost of the tuition or the lack of knowledge about funding for higher education (Sallie Mae fund, 2003), could inhibit the access to higher education. This may influence their level of engagement in the school environment, and consequently their preparation for college. In addition, it could affect college choice (Mare, 1980; Enersen, Servaty-Seib, Pistilli \& Koch, 2008; St. John et al., 2011).

## 2. A positive self-image increases the likelihood of choosing AESL.

a. Students who have a high subjective perception of their abilities will tend to choose AESL.

Subjective perception of a student's ability is an important predictor of career choices (Manski, 1990; Yonezawa et al., 2002; Tolsma et al., 2010). Because AESL is more challenging than VESL, it is expected that students with greater confidence in their abilities tend to choose AESL. The variable used here compares the real ranking obtained from the national test score (not known by the student) with the student subjective perception of her ranking in the test.
b. Students with higher academic expectations will choose AESL.

The relationship between expectations and future educational attainment has been extensively studied (Bozick, Alexander, Entwisle, Dauber \& Kerr, 2010; Hao \& Bonstead-Bruns, 1998). Those who expect to pursue a bachelor's degree will enroll in AESL. Those only expecting (in eighth grade) to pursue a secondary vocational degree, will enroll in VESL. The relationship between those expecting to go to a VETL institutions and the type of enrollment they prefer is not clear.

## 3. Networks exert influence on school choices.

Networks have an important role in shaping decisions (Coleman, 1988; Putnam, 1994, 1995); in particular, career decisions (St. John et al., 2011; Usher, 2005). The pressure that parents, teachers, and friends exert on a student may affect her choices: the more a student perceives external pressure to attend a VESL school, the higher is the likelihood that she will choose VESL.
4. Higher discount rates and higher risk aversion rates increase the likelihood of choosing VESL.
a. Students with higher discount rates will prefer VESL.

The hypothesis is that, students who strongly value the present tend to make short-term decisions (Usher, 2006; Gonzalez, 2011). It is likely that these students will prefer VESL as this path could accelerate their access to the labor market.
b. Students with higher risk aversion rates will prefer VESL.

It could be riskier to make a long-term investment in a career than to opt to enter the labor market immediately after finishing school (Gonzalez, 2011). The risk of failure in more complex long-term forms of employment could appear high to low-income students, who may worry about accruing debts while struggling to complete a higher education credential.

Other variables used as controls in the models are:

Female: Gender could affect decisions due to sex-stereotyped perceptions of occupations (Brown et al., 2002)
Disposition to pay: This variable is measured as the maximum between the actual tuition paid in thee school in 2011 and the tuition paid in the school in 2012.
Test scores: Included as a proxy for ability, this variable is the student's average of the standardized scores in math, language, science and social science from the national test (SIMCE) taken in 2011. Students with high ability will choose AESL (Boudon, 1974; Blossfeld \& Shavi, 2000).
Relative distance: Distance is usually an important determinant of school choice (Chumacero et al., 2011; Microdatos, 2009). Higher costs, more time, and a lack of information about more distant schools could lead students to choose by proximity. This variable measures the difference in distance between i) the closest academic school and the student's home and ii) the closest vocational school and the student's home.
Socioeconomic status (SES): Higher SES will lead students to choose AESL. More educated parents can better support their children academically, increasing their performance and also preparing them for a more challenging education. In addition, they may help students to better assess the benefits and cost of higher education ${ }^{4}$ (Boudon, 1974; Erikson \& Rudolphi, 2010).

## Data and methodology

This study uses a rich panel of census data from governmental sources.
Table 2
Data from governmental sources

| Source | Grade/ year | Level | Example of variables |
| :--- | :--- | :--- | :--- |
| National survey | $4^{\text {th }} / 2006$ | Individual | Race, school level expected, |
| (Students and | $4^{\text {th }} / 2007$ | Individual | mother's and father's schooling, |
| parents) | $8^{\text {th }} / 2011$ | Individual | income per capita, number of |


|  |  |  | books at home, parents' occupations, reasons to choose school |
| :---: | :---: | :---: | :---: |
| National test | $\begin{aligned} & 4^{\text {th }} / 2006 \\ & 4^{\text {th }} / 2007 \\ & 8^{\text {th }} / 2011 \\ & 8^{\text {th }} / 2009 \\ & 10^{\text {th }} / 2010 \end{aligned}$ | Individual <br> Individual <br> Individual <br> School <br> School | Test score in: language, math, sciences, and history It covers 93 percent of the population |
| Administrative data | $\begin{aligned} & 2006 \text { to } \\ & 2012 \end{aligned}$ | Individual | Enrollment (including the new school chosen in 2012), school characteristics (urban/rural, public/private, VESL/AESL, cost, location), student characteristics |

In order to better understand the factors that correlate with the school/career choice, the study takes advantage of an ad hoc survey conducted in November 2011.

## Table 3

Ad hoc survey
Design and The survey was designed and conducted by the author with the application support of sociology students
Universe of 211 urban schools in Santiago whose highest level is eighth grade, study from the three highest quintiles of performance on the national test.

Unit The student.
Sample A stratified random sample of 52 schools. The number of schools per stratum was proportional to the schools per stratum in the universe. Eight stratums were defined by four socioeconomic groups and by type of school (private /public). One randomly chosen full class per school was surveyed.
Method Self-applied questionnaires for all students in the class.
Survey $\quad 1,463$ students answered the questionnaire. The response rate of statistics the survey reached $85 \%$ ( $84 \%$ weighted response rate), mainly due to regular absences on the day of the survey. The average response rate within responded surveys was 93 percent. 100 percent of
records matched with administrative data 2011. $90 \%$ matched with scores from the fourth grade SIMCE (2006 and 2007). Ten percent of questionnaires were double-entered, just an error of one percent was detected.
Topics Social capital, cultural capital, preferences, and self-perception.

A summary of the variables is presented in Table 4.

Table 4
Sum of variables

| Variable | Obs | Mean | Std. Dev. | Min | Max |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Student's characteristics |  |  |  |  |  |
| Female | 1463 | 0.49 | 0.50 | 0.00 | 1.00 |
| Repeater | 1411 | 0.17 | 0.38 | 0.00 | 1.00 |
| Mother's schooling (std) | 1305 | 0.00 | 1.00 | -3.46 | 2.06 |
| College cost concern | 1408 | 0.57 | 0.49 | 0.00 | 1.00 |

School characteristics

| Rural | 1463 | 0.14 | 0.35 | 0.00 | 1.00 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Average parents' <br> disposition to pay (std) | 1463 | 0.00 | 1.00 | -0.83 | 3.89 |
| Test Score 8th grade 2011 <br> (std) | 1427 | 0.00 | 1.00 | -3.47 | 2.93 |
| Difference in distance <br> AESL-VESL schools (std) | 1243 | 0.00 | 1.00 | -2.12 | 6.83 |

Parents' Expectations and self perception
Expectation: Incomplete secondary

| 1463 | 0.01 | 0.09 | 0.00 | 1.00 |
| :--- | :--- | :--- | :--- | :--- |
| 1463 | 0.17 | 0.38 | 0.00 | 1.00 |
| 1463 | 0.03 | 0.16 | 0.00 | 1.00 |
| 1463 | 0.17 | 0.38 | 0.00 | 1.00 |
|  |  |  |  |  |
| 1463 | 0.04 | 0.20 | 0.00 | 1.00 |


| No Expectation <br> Difference in perceived vs <br> real ranking (std) | 1463 | 0.25 | 0.43 | 0.00 | 1.00 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Cultural Capital <br> Knowledge about higher <br> education | 1336 | 0.00 | 1.00 | -3.57 | 3.42 |
| Preparation Index (std) | 1420 | 1.85 | 0.98 | 0.00 | 4.00 |
| Continue Working | 1463 | 0.20 | 0.40 | 0.00 | 1.00 |
| Prefer wage (than interest) | 1402 | 0.41 | 0.49 | 0.00 | 1.00 |
| Value VESL/AESL index <br> (std) | 1463 | 0.00 | 1.00 | -2.61 | 2.17 |
| Social Capital <br> Pressure towards VESL <br> (std) | 1393 | 0.00 | 1.00 | -1.18 | 1.15 |
| Discount and Risk <br> Aversion rates |  |  |  |  |  |
| Discount rate <br> Risk Aversion rate | 1421 | 2.30 | 4.94 | -0.10 | 19.00 |
| Other <br> Gender bias index | 833 | 0.83 | 2.60 | -0.21 | 9.78 |
| School chose by values | 1463 | 0.35 | 0.48 | 0.00 | 1.00 |
| Outputs <br> Student's preference <br> VESL/AESL from survey <br> Student's actual enrolment <br> VESL/AESL | 1431 | 0.65 | 0.48 | 0.00 | 1.00 |
| Student's actual enrolment <br> 4 groups (VESL/AESL, <br> Pr/Pub) | 1389 | 0.64 | 0.48 | 0.00 | 1.00 |

The methodology included the use of factor analysis to build variables and run multinomial and binomial logit regressions, in order to determine the factors related to the school-program decision. I used two variables as outputs: the student's preference for VESL or AESL as declared in the
survey, and the student's actual enrollment in a VESL or AESL school obtained from the administrative data in the next school year (2012). For reasons of brevity only results with actual enrollment are displayed.
The relationship is defined by the following model:

$$
\begin{equation*}
\operatorname{logit}\left(p_{i}\right)=\ln \left(p_{i} /\left(1-p_{i}\right)\right)=\beta_{0}+\beta_{1} X_{1}+\beta_{2} X_{2}+\varepsilon \tag{1}
\end{equation*}
$$

where $p_{i}$ is the probability that a student chooses to enroll in VESL; $X_{1}$ is a vector of student and school characteristics; and $X_{2}$ represents the different sets of variables included to test each hypotheses stated in the theoretical framework. In addition, I constructed a full model incorporating the complete set of hypotheses. I also ran a multinomial logistic regression using four types of schools as outcome: public AESL; public VESL; private AESL; and private VESL.

In order to understand the decisions of those students with better performance or higher expectations, I re-ran the full model and the multinomial regression for: the subsample of the students who perform above average in SIMCE eighth grade 2011; those who declared that they expect to obtain at least a bachelor's degree; and a combination of both criteria.

## Limitations

This study is conceived as an exploratory analysis that presents three main limitations. First, the external validity is restricted to the sample selected. Second, there could be significant measurement errors. The survey was administered to eighth graders, and the school-career decision at this age (13 years) could be strongly influenced by parents. As students’ opinions generally mirror those of their parents, and my goal was to understand students' perspectives, I opted for student survey. ${ }^{i}$ In addition, the concept of cultural capital is hard to isolate from variables such as ability (measured by previous test scores) and SES. For instance, the survey contains a question
addressing the student's perception of which type of secondary education is better for life, work, or obtaining a bachelor's degree. While the question was designed to provide insights into the role of cultural capital, the answer may not necessarily be related to culture. It could be the case that under certain circumstances (e.g. poorly performing schools near the student's house) VESL may be a better route to prepare for a bachelor's degree than AESL. These situations, while unlikely to be widespread, could be biasing results. Third, the analysis is relational and not causal.

## Results

## Overview of the survey

The survey results suggest that culture, the influence of the environment, self-perception, and economic elements converge to explain the decision to study in a VESL school. The following seem to be particularly important: poor preparation for the decision; cultural factors and beliefs about the value of VESL; uniformity of opinion in the immediate environment of the student; misperceptions about actual academic performance; overestimation of the benefits of technical careers; or excessive impatience.

A preliminary analysis of the data shows that families do not engage extensively with the school decision process, resulting in an average of only 1.9 applications per student. They seek information from two or fewer schools, and in general this information comes from the school to which they are applying. These results are consistent with González (2011). Additionally, school support for the application process seems to exist only in a little over half of the schools; the quality and objectivity of these procedures is questionable. Furthermore, only three out of ten students report that the school decision will be made only by their parents.

The key reasons cited for choosing a school are: having the expertise that matches students' career aspirations, the quality of teaching, and proximity. Approximately one in four students is uncertain about whether to choose

VESL or AESL; however, most schools cater only to a single program (VESL or AESL). A little over a third of students who do choose AESL are seeking continuity in education, while just over a quarter of those who choose VESL argue they did it in order to work after school. There appears to be a degree of inconsistency in the reasons for students give for choosing a program and their expressed ambitions following high school. One in ten students chooses AESL to enter the labor market after twelfth grade, and one in seven chooses VESL in order to continue their studies.

In terms of culture, the survey shows that students believe that VESL better prepares students for the job market, for VETL, and also for life (although students perceive little difference between AESL and VSL in the latter category). Students predominantly believe that AESL better prepares students for a BD. Additionally the idea that college can be very expensive could divert some students from AESL. These factors, combined with poor preparation to make a school choice decision, provide evidence for the existence of a habitus that leads students to attend VESL institutions without having properly considered and evaluated the alternatives.

The influence of the environment is represented by the index for external pressure. While 20 percent of the students reported that no one told them they should pursue VESL, a similar percentage of students claimed they were advised by their teachers, parents and friends to attend a VESL school. Apart from parents, family members appear to have a strong influence on the decision (48 percent), which is consistent with Usher (2005). The role of teachers and school administrators is weak (only six percent mention this as most important influence on their decision), providing support for the idea that the guidance processes developed by the schools are ineffective.

In terms of self-image, almost a third of the students reported not feeling smart enough to succeed in higher education. However, most of the students tended to overestimate their performance compared to their actual SIMCE performance.

An exploration of the economics of students' decisions confirmed the findings of national and international literature: poor students tend to underestimate BD revenues and overestimate VESL/VETL revenues (Boudon, 1974; Usher, 2005; Gonzalez, 2011). Also, more students underestimate the costs of higher education; even though on average students overestimate the cost. This situation also indicates among a particular group (not a majority) there is a belief that the costs of education are too high. Turning to discount rates, approximately one in ten students are highly impatient, that is, they are unwilling to postpone a current benefit for a future benefit of the same size plus an extra prize, regardless of the size of the prize. The decisions of these students tend to be short-term. A teacher from a low-SES school utters in the survey: "The majority of them [students] choose a VESL school. They need and want a job as soon as possible. Their parents do not think of or have as expectations that they will study for many years due to economic issues or lack of information." In analyzing the NPV, it therefore appears reasonable that many students choose VESL over other alternatives that they think produce lower and delayed revenues.

## Basic analysis

The survey confirmed most of the expectations for basic variables ${ }^{5}$ and assumptions (Table 5A \& 5B). Higher SES was related to a lower likelihood of choosing VESL. The same was true for ability, being female, willingness to pay for education, and preparation for the decision. On the contrary, a higher intention to work after $12^{\text {th }}$ grade, preference for wage, value of VESL over AESL, vocational expectations (VESL or VETL), pressure towards VESL, and risk aversion, are related with a higher likelihood of choosing VESL. The coefficient on relative distance between the closest academic and vocational school acted in the expected direction, but did not appear significant when all variables were included. The same was true for college cost concern and higher educational knowledge. Attendance at a
school located in a rural community appeared to be significantly negatively correlated with actual enrollment in VESL.

The evidence supports the hypothesis that greater cultural capital is positively correlated with students' decision to choose AESL. The hypothesis that better self-image is associated with the choice of AESL over VESL was confirmed. This suggests that students who underestimated their abilities tended to choose VESL. Discount rate was not statistically different from zero.

Table 5A
Assumptions

| Estimation | 1 | 2 | 3 | 4 | 5 | 6 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Cultural capital <br> Assumptions |  |  |  |  |  |  |
| HE knowledge | 0.952 | 0.952 | 0.924 | 0.916 | 0.880 | 0.881 |
| $(\mathrm{~N}=953)$ | $(0.072)$ | $(0.071)$ | $(0.071)$ | $(0.070)$ | $(0.072)$ | $(0.072)$ |
| Index: Preparation |  |  |  |  |  |  |
| for decision | $0.713^{* *}$ | $0.723^{* *}$ | $0.775^{* *}$ | $0.809^{*}$ | $0.854+$ | $0.855+$ |
| $(\mathrm{N}=953)$ | $(0.056)$ | $(0.059)$ | $(0.062)$ | $(0.068)$ | $(0.074)$ | $(0.075)$ |
| Work after 12th |  |  |  |  |  |  |
| grade | $2.620^{* *}$ | $2.607^{* *}$ | $2.256^{* *}$ | $2.122^{* *}$ | $2.115^{* *}$ | $2.149^{* *}$ |
| (N=953) | $(0.602)$ | $(0.597)$ | $(0.516)$ | $(0.504)$ | $(0.512)$ | $(0.524)$ |
| Preference: Wage | $1.365^{*}$ | $1.315+$ | 1.172 | 1.020 | 0.984 | 0.990 |
| (N=953) | $(0.210)$ | $(0.195)$ | $(0.173)$ | $(0.151)$ | $(0.156)$ | $(0.159)$ |
| Value VESL/AESL | $1.992^{* *}$ | $1.989^{* *}$ | $1.964^{* *}$ | $1.905^{* *}$ | $1.931^{* *}$ | $1.930^{* *}$ |
| (N=953) | $(0.165)$ | $(0.165)$ | $(0.159)$ | $(0.154)$ | $(0.157)$ | $(0.158)$ |
| College cost concern | 1.010 | 1.021 | 1.030 | 1.098 | 1.043 | 1.051 |
| (N=953) | $(0.159)$ | $(0.160)$ | $(0.161)$ | $(0.171)$ | $(0.173)$ | $(0.175)$ |
| Self perception |  |  |  |  |  |  |
| assumption |  |  |  |  |  |  |
| Difference ranking | 1.093 | 1.102 | 1.102 | $1.188^{* *}$ | $1.197^{* *}$ | $1.198^{* *}$ |


| (R-P) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ( $\mathrm{n}=953$ ) | (0.065) | (0.066) | (0.067) | (0.076) | (0.077) | (0.077) |
| Parents' Ex. VESL | 5.573** | 5.463** | 4.266** | 3.518** | 3.329** | 3.343** |
|  | (1.705) | (1.631) | (1.175) | (0.970) | (0.927) | (0.928) |
| Parents' Ex. AESL | 1.732 | 1.663 | 1.161 | 1.023 | 0.992 | 0.962 |
|  | (0.796) | (0.755) | (0.553) | (0.483) | (0.416) | (0.400) |
| Parents' Ex. VETL | 3.233** | 3.193** | 2.978** | 2.649** | 2.647** | 2.614** |
|  | (0.686) | (0.675) | (0.605) | (0.538) | (0.546) | (0.544) |
| Parents' No Ex.$(\mathrm{n}=953)$ | 1.172 | 1.131 | 1.091 | 1.014 | 0.991 | 0.990 |
|  | (0.299) | (0.284) | (0.279) | (0.266) | (0.264) | (0.263) |
| Students' Ex. |  |  |  |  |  |  |
| Secondary | 3.279** | 3.188** | 2.450** | 1.904* | $1.768+$ | 1.755+ |
|  | (0.939) | (0.907) | (0.679) | (0.562) | (0.525) | (0.518) |
| Students' Ex. VETL | 2.587** | 2.542** | 2.264** | 2.157** | 2.152** | 2.148** |
|  | (0.503) | (0.489) | (0.415) | (0.420) | (0.425) | (0.425) |
| Students' No Exp.$(\mathrm{n}=953)$ | 1.888 | $1.926+$ | 1.946 | 1.640 | 1.579 | 1.523 |
|  | (0.749) | (0.763) | (0.795) | (0.601) | (0.627) | (0.643) |
| Controls |  |  |  |  |  |  |
| Student |  |  |  |  |  |  |
| Characteristics |  | X | X | X | X | X |
| Parents' |  |  |  |  |  |  |
| Characteristics |  |  | X | X | X | X |
| Scores School |  |  |  | X | X | X |
|  |  |  |  | School |  |  |
| Characteristics |  |  |  |  | X | X |
| Distance AESL- |  |  |  |  |  |  |
| VESL |  |  |  |  |  | X |
| Note: Coefficients are $\mathrm{p}<0.05, * * \mathrm{p}<0.01$. St regressions. Every mo | odds rat ndard erro el is clust | os. Signif rs in pare red at sch | icant diffe theses.Eac ol level. | ences betw line repre | een group ents differ | $+\mathrm{p}<0.1$ <br> set of |

Table 5B
Assumptions

| Estimation | 1 | 2 | 3 | 4 | 5 | 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Social capital assumptions |  |  |  |  |  |  |
| Pressure towards VESL $(\mathrm{n}=953)$ | $\begin{gathered} 2.219 * * \\ (0.189) \\ \hline \end{gathered}$ | $\begin{gathered} 2.211^{* *} \\ (0.185) \\ \hline \end{gathered}$ | $\begin{gathered} 2.101^{* *} \\ (0.168) \\ \hline \end{gathered}$ | $\begin{gathered} 2.013 * * \\ (0.156) \\ \hline \end{gathered}$ | $\begin{gathered} 1.998^{* *} \\ (0.158) \\ \hline \end{gathered}$ | $\begin{gathered} 2.014^{* *} \\ (0.159) \\ \hline \end{gathered}$ |
| Risk aversion and discount rate assumptions |  |  |  |  |  |  |
| Risk Aversion Rate $(\mathrm{N}=547)$ |  | $\begin{aligned} & 1.108^{*} \\ & (0.051) \\ & \hline \end{aligned}$ | $\begin{aligned} & 1.108^{*} \\ & (0.049) \\ & \hline \end{aligned}$ | $\begin{aligned} & 1.093 * \\ & (0.048) \\ & \hline \end{aligned}$ | $\begin{aligned} & 1.096+ \\ & (0.052) \end{aligned}$ | $\begin{aligned} & 1.096+ \\ & (0.052) \end{aligned}$ |
| Discount rate $(\mathrm{N}=944)$ | $\begin{gathered} 0.998 \\ (0.013) \\ \hline \end{gathered}$ | $\begin{gathered} 0.997 \\ (0.013) \\ \hline \end{gathered}$ | $\begin{gathered} 0.990 \\ (0.013) \\ \hline \end{gathered}$ | $\begin{gathered} 0.992 \\ (0.013) \\ \hline \end{gathered}$ | $\begin{gathered} 0.994 \\ (0.013) \\ \hline \end{gathered}$ | $\begin{gathered} 0.993 \\ (0.013) \\ \hline \end{gathered}$ |
| Controls <br> Student <br> Characteristics <br> Parents' |  | X | X | X | X | X |
| Characteristics |  |  | X | X | X | X |
| Scores School |  |  |  | X | X | X |
| Characteristics Distance AESL VESL |  |  |  |  | X | X X |

Note: Coefficients are odds ratios. Significant differences between groups: + $\mathrm{p}<0.10,{ }^{*} \mathrm{p}<0.05,^{* *} \mathrm{p}<0.01$. Standard errors in parentheses. Each line represents different set of Logit regressions. Every model is clustered at school level.

## All assumptions

When including all assumptions in the model, the coefficients on most variables acted in the same direction, but many of them lost significance. The variables that remained significant for both outcomes were willingness to pay, test scores, expectations of choosing VESL at secondary level, the perceived value of VESL, and the extent of social pressure to attend a VESL
school. Other variables remain significant in most regressions. For instance, females are consistently less likely to express a preference for VESL, probably due to many VESL programs are dominated by men (electricity, mechanical, and agricultural). In the actual enrollment outcome, mother's schooling also appears significant and negatively related to the likelihood of attending a VESL school. Parents' expectations about whether their children will pursue VESL or a VETL degree almost always display a positive and significant relationship with enrollment in VESL. Finally, a preference for entering the labor market directly after completing twelfth grade is strongly and positively related to pursuing a VESL program. This variable may be in part capturing the extent of students' impatience.

My results differ across the two outcomes, survey decisions and actual enrollment. In the first case, coefficients tend to be higher. For instance, the variable "Work after $12^{\text {th }}$ Grade" has a coefficient that is double that when actual enrollment is used as outcome. The same happens for the "Value of VESL/AESL" and "Pressure towards VESL" variables. This suggests that these factors play a key role in the student's decision-making process, but become less important in practice. In fact, when using actual enrollment as an outcome, other variables appear significant, including "Difference in Ranking (R-P)," and more weakly, "Preparation for the Decision" and "Risk Aversion Rate."

Table 6
All assumptions together

| Estimation | 1 | 2 | 3 | 4 | 5 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| HE knowledge | 0.876 | 0.873 | 0.872 | 0.893 | 0.883 |
|  | $(0.072)$ | $(0.073)$ | $(0.074)$ | $(0.075)$ | $(0.085)$ |
| Index: Prep. for |  |  |  |  |  |
| decision | $0.851+$ | 0.875 | 0.889 | $0.860+$ | $0.719^{*}$ |
|  | $(0.073)$ | $(0.077)$ | $(0.079)$ | $(0.079)$ | $(0.099)$ |
| Work after $12^{\text {th }}$ gr. |  | $2.130^{* *}$ | $1.875^{*}$ | 1.482 | 1.451 |


|  |  | (0.515) | (0.479) | (0.376) | (0.497) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Preference: Wage |  | 0.919 | 0.916 | 0.872 | 0.976 |
|  |  | (0.150) | (0.155) | (0.161) | (0.237) |
| Dif. ranking (R-P) |  | 1.184** | 1.141* | 1.110 | 1.144 |
|  |  | (0.077) | (0.074) | (0.074) | (0.108) |
| Clg. cost concern |  |  | 0.952 | 0.835 | 0.931 |
|  |  |  | $(0.164)$ | $(0.149)$ | $(0.197)$ |
| Exp. VESL |  |  | 2.917** | 2.175* | $1.863+$ |
|  |  |  | (0.807) | $(0.657)$ | $(0.675)$ |
| Exp. AESL |  |  | 0.855 | 0.662 | 1.269 |
|  |  |  | (0.385) | (0.353) | (0.909) |
| Exp. VETL |  |  | 2.418** | 2.092** | 1.428 |
|  |  |  | (0.523) | (0.462) | (0.384) |
| No Exp. |  |  | 0.954 | 0.926 | 1.029 |
|  |  |  | (0.257) | (0.280) | (0.344) |
| Val. VESL/AESL |  |  |  | 1.685** | 1.713** |
|  |  |  |  | $(0.141)$ | (0.184) |
| Pressure to. VESL |  |  |  | 1.661** | 1.785** |
|  |  |  |  | $(0.138)$ | $(0.216)$ |
| Discount rate |  |  |  |  | 0.991 |
|  |  |  |  |  | (0.019) |
| Risk Aversion Rt. |  |  |  |  | $1.126+$ |
|  |  |  |  |  | (0.069) |
| Constant | 3.602** | 3.337** | 2.529** | 3.266** | 2.988** |
|  | (0.897) | (0.888) | (0.706) | (0.937) | (0.910) |
| Number of Cases | 953 | 953 | 953 | 953 | 542 |

Note: Coefficients are odds ratios. Significant differences between groups: + $\mathrm{p}<0.10,{ }^{*} \mathrm{p}<0.05,^{* *} \mathrm{p}<0.01$. Standard errors in parentheses.Each line represents different set of Logit regressions. All models controlled by student's, parents', and schools characteristics, test scores and relative distance. Every model is clustered by school.

## Multinomial logit regression

When I separated the schools into four groups (public AESL; public VESL; private AESL; and private VESL), it was clear that the effect of the included variables differed across groups. For instance, greater willingness to pay for education was positively correlated with attending a private school but negatively correlated with choosing an academic school, higher scores were related to choosing academic schools, preference for high earnings and concerns about college cost were closely linked to attending an academic school in the public sector, and role of relative distance was most important for students considering or attending a VESL school in the public sector. In addition, expectations about VESL or VETL attendance, the perceived value of VESL, and the pressure to choose a VESL school were more closely related to going to an AESL school.

These results suggest that research about school decisions that only consider the choice between public and private schools could be omitting an important part of how decisions are made, by ignoring the impact of AESL and VESL choices. This means that such research may be accordingly biased.

Table 7
Multinomial logit regression

| $(\mathrm{N}=951)$ | AESL-Pub | VESL-Pub | AESL-Prv |
| :--- | :---: | :---: | :---: |
| Female | 0.471 | -0.229 | 0.203 |
|  | $(0.321)$ | $(0.283)$ | $(0.241)$ |
| Repeating | 0.031 | 0.010 | -0.094 |
|  | $(0.395)$ | $(0.290)$ | $(0.277)$ |
| Mother Schooling | $0.612^{* *}$ | -0.005 | 0.095 |
|  | $(0.172)$ | $(0.098)$ | $(0.109)$ |
| Rural | 0.265 | $1.443 * *$ | $1.804^{* *}$ |
|  | $(0.785)$ | $(0.424)$ | $(0.471)$ |


| Disposition to pay | 0.791** | 1.055** | 0.654** |
| :---: | :---: | :---: | :---: |
|  | (0.202) | (0.258) | (0.101) |
| Scores 8th | $0.315+$ | -0.194 | $0.220+$ |
|  | (0.170) | (0.148) | (0.114) |
| Rltv. distn. AE/VE | -0.153 | 0.242* | 0.019 |
|  | (0.217) | (0.099) | (0.089) |
| HE knowledge | 0.146 | 0.021 | 0.087 |
|  | (0.141) | (0.127) | (0.083) |
| Ind: Prp for decision | 0.216+ | -0.052 | 0.085 |
|  | (0.124) | (0.150) | (0.097) |
| Work after12th grd. | -0.944+ | 0.202 | -0.134 |
|  | (0.488) | (0.252) | (0.297) |
| Preference: Wage | 0.492+ | 0.152 | 0.016 |
|  | (0.275) | (0.223) | (0.222) |
| Dif. Ranking (R-P) | -0.066 | 0.055 | -0.119 |
|  | (0.113) | (0.120) | (0.087) |
| Coll. cost concern | 0.740** | 0.044 | -0.085 |
|  | (0.269) | (0.198) | (0.202) |
| Exp. VESL | -0.631 | 0.409 | -0.714* |
|  | (0.392) | (0.264) | (0.339) |
| Exp. AESL | 1.072 | 0.067 | 0.103 |
|  | (0.775) | (0.511) | (0.561) |
| Exp. VETL | -1.248** | 0.110 | -0.495+ |
|  | (0.336) | (0.289) | (0.289) |
| No Exp. | 0.145 | 0.688* | 0.160 |
|  | (0.392) | (0.348) | (0.357) |
| Val. VESL/AESL | -0.436** | 0.003 | -0.545** |
|  | (0.123) | (0.104) | (0.106) |
| Press. to VESL | -0.528** | -0.051 | -0.512** |
|  | (0.126) | (0.139) | (0.097) |
| Constant | -2.858** | -2.244** | -1.396** |
|  | (0.480) | (0.432) | (0.345) |
| Pseudo-R2 |  | 0.240 |  |

[^0]
## Selected samples ${ }^{6}$

Results were similar to those discussed above. The most important difference was the strong negative relationship between knowledge of higher education and choosing VESL for those with the expectation of a bachelor's degree. For this same group, the preparation index was negatively related to the VESL decision, suggesting that those students with higher education expectations may chose VESL as a result of having invested less time in making this decision. In addition, the variable that measures the gap between students' actual and perceived performance was positively correlated with choosing VESL for this group.

## Discussion

Results provide support for most of the hypotheses presented above. In particular, SES, cultural, social and self-image factors seem to be closely related to the school-career choice. When trying to understand why some high-performing low-SES students may choose VESL, the answer could be in part a function of an environment that highly values VESL. The concept of habitus (Bourdieu, 1998) plays an important role here. Parents might be advising their children based on their own experiences that may not necessarily mirror current realities about higher education and the labor market. Other variables support the hypothesis that cultural elements are important. For instance, expectations play a central role in shaping decisions. The finding that students whose parents expect them to attend VE at tertiary level are choosing VESL schools is also interesting. In addition, those eighth graders thinking of entering the labor market immediately after the twelfth
grade choose a vocational school with greater probability. Therefore, it seems that cultural beliefs are integral to students' decision-making processes. These results do not allow me to explore the question of whether these beliefs are rational; however this may be an important part of the puzzle. It could also be the case that cultural beliefs underlie preferences, such that students could be choosing their careers rationally but on the basis of different preferences. A third and preferred alternative is that culture, networks and proximity create bounds that may prevent students from appreciating the full range of educational alternatives available to them. In this case, they make decisions under conditions of bounded rationality (McDonough, 1997). Further research is needed to increase the precision and the robustness of this analysis.

These results also highlight the problem of social reproduction. Because socioeconomic and cultural factors influence decisions, and these decisions affect future opportunities, it seems highly likely that the educational system could be contributing to the reproduction of SES patterns over time. High levels of inequality and segregation among the population in Santiago may increase the likelihood that poor students both live and attend school with people who share similar beliefs and varieties of capital (human, cultural and social). The homogenization of expectations and beliefs across similar SES students could increase the risk of reproduction of inequalities (Hao \& Bonstead-Bruns, 1998).

Results also raise questions about the kind of policies that could be effective in reducing the effects of cultural and social factors on educational outcomes. Since many of these factors could be deeply embedded in cultural traditions and beliefs, policies addressing these issues need to be framed as long-term interventions. Schools clearly have an important role to play (Bowen et al., 2009). For instance, policies that promote the provision of information about higher education, and attempt to adapt cultural beliefs could be pertinent. Although there is evidence that information could affect decisions (Hastings et al., 2006), it is highly likely that policies intended to
increase the circulation of information in the short-term will affect only part of the population. Change needs to begin early, since many educational decisions that affect future opportunities may be made as early as primary or the beginning of secondary school (Bozick et al., 2010).

Finally, it is worth considering that equal opportunities in education do not depend only on providing an equally challenging curriculum to all students, but are also a function of personal effort and personal decisions. This research suggests that personal decisions may in turn be influenced by SES and cultural factors. Accordingly, policymakers also need to make an effort to address differences in the factors that affect the quality of students' decisions.

[^1]
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[^0]:    Note: Coefficients are odds ratios. Significant differences between groups: + $\mathrm{p}<0.10,{ }^{*} \mathrm{p}<0.05, * *$ $\mathrm{p}<0.01$. Standard errors in parentheses.Each line represents different set of regressions. All models controlled by student's, parents', and schools characteristics, also controlled by test scores and relative distance. Every model is clustered by school.

[^1]:    Notes
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    ${ }^{2}$ Bounded rationality "refers to behavior that is rational but limited by the cognitive constraints on decision making" (McDonough, 1997, p.10).
    ${ }^{3}$ Akerlof \& Kranton (2010) introduced the concept of "identity economics" arguing that "who we are" shapes our work, wages and well-being.
    ${ }^{4}$ These two reasons are the primary and secondary effects articulated by Boudon (1974). These may be related to cultural factors that may limit the capacity of low-SES students to fully appreciate the differentials in rates of return to tertiary education.
    ${ }^{5}$ In addition, operational factors, such as low parental response rates or survey logistics, influenced my decision.
    ${ }^{6}$ Results available by request.

