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Graduates' satisfaction as a measure of quality: Evidence from two programs in three Chilean universities

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ABSTRACT

In Chile as elsewhere, there are no direct measures of a university's impact on learning, that is, the quality of education provided. Parents and prospective students, and university administrators, rely on various indirect measures, including student satisfaction. This paper assesses the satisfaction levels of graduates from two degree programs offered in three universities in Chile, focusing principally on the graduates' perceptions of the quality of their training programs. Data were collected using a survey questionnaire of a sample of three cohorts of graduates in Psychology and in Teaching. Levels of satisfaction varied according to particular aspects of their degree program as influenced by prior education and later by employment. Global judgments of the quality of one's degree program are influenced by work experience after graduation; judgments of curriculum and teaching practices pertain to what was experienced as a student or before.

1. Introduction

The democratic governments that came into power in Chile after 1990 had promised that expansion of education would not only increase economic growth, but also contribute to a more egalitarian society. The economy did grow and enrollments in Chilean universities have more than doubled in 20 years (Rolwing & Clark, 2013). Expansion was made possible by removing restrictions to the opening of new private universities resulting in massive enrollment of "first-generation" students from low-income families (Espinoza & González, 2013; Soto Hernandez, 2016).

Early euphoria morphed into bitter complaints, however, when expectations of radical improvements outstripped actual changes in the economy. Beginning in 2011 national student demonstrations resulted in violent confrontations with police and closure of several universities. Complaints included the high failure rate and family indebtedness of those not graduating (Cummings, 2015). Specific criticisms were made about the quality of teaching and learning (Espinoza & González, 2013). Some argued that current admission policies reproduce income inequality: test scores are correlated with family socio-economic status (SES); government-financed scholarships apply only to traditional universities which are selective; employers tend to assign higher salaries to graduates of these institutions (Bordón & Braga, 2013; Chacón, 2015).

Would improvement of the quality of universities' programs restore peace on their campuses? Perhaps not. At least three recent studies in various Chilean universities reported moderately high levels of student satisfaction (de la Fuente Mella, Marzo Navarro, & Reyes Riquelme, 2010; Inzunza Melo et al., 2008; Palominos, Quezada, Osorio, Torres, & Lippi, 2016), but these covered only 6 of 60

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universities, and students from all faculties in only one of those. Who is best qualified to comment on university quality, current students or graduates in the labor force? This complex question is not yet fully explored in the Chilean context. At present most "measures" of university quality are based on fixed inputs to the formation process but not on the process of teaching and learning (Dill & Soo, 2005; Wachter et al., 2015) or on outcomes such as employability. This paper reports on a modest effort to examine the relationships between various aspects of graduates' satisfaction with the formation they received in university, and their initial experiences once employed.

Satisfaction and quality are multi-dimensional constructs. If quality has different dimensions, satisfaction may be high for one aspect of a program but not for others. Corrective actions may improve what is already satisfactory. Employers' salary decisions based on the general reputation of the university also may be mistaken. Our objective is to explore these possibilities, understanding that while this study may help to illustrate the issue, more research will be required to develop a strategy that takes all dimensions of quality into account. To that end, we defined satisfaction as occurring when the perceived quality in each experience matches or exceeds expectations. Quality may be judged in terms of inputs, process or outputs. Our main purpose in this paper is to demonstrate, for Chile, the usefulness of measuring satisfaction (and hence quality) as multidimensional constructs.

2. Research on student satisfaction

2.1. Satisfaction with the university experience

Early interest in "student satisfaction" was motivated by administrators eager to attract students as a source of finance for the institution. Universities were defined as service industries, and students as consumers whom, if satisfied, would continue to demand the product. Consistent with this approach, satisfaction was defined as a positive reaction to perceived quality. The "term" quality had been used in higher education in at least five different ways: 1) Most loosely, to refer to a phenomenon or thing that is considered to be exceptional, out of the ordinary; 2) As an example of perfection, or of consistency with a predetermined set of standards; 3) As an ability to achieve a particular objective; the likelihood that a particular process will achieve its goal; 4) More precisely, the "value added" by a process; and 5) As engendering a qualitative change or transformation (González & Espinoza, 2008; Harvey & Askling, 2003).

One of the first instruments using this approach to satisfaction was based on research with customer relations in service enterprises (Parasuraman, Zeithaml, & Berry, 1988). The scheme proposed five distinct categories of objects of satisfaction: tangibles, with material aspects of the institution; responsiveness, the speed with which consumers' demands are met; empathy, reflected in the care with which consumers are treated; assurance, or confidence in skill of employees; and reliability, or capacity to deliver the service. Sets of Likert Scale type items were used to measure each of these dimensions. The instrument, known as SERVQUAL, has been applied in many countries (e.g., Candelas, Gurruchaga, Mejías, & Flores, 2013; Stephens, 2014) including Chile (de la Fuente Mella et al., 2010).

A review of research on satisfaction (from a consumer's perspective) in higher education, concludes that satisfaction judgments are influenced by multiple factors and that the salience of each depends on the student's stage of development with respect to the particular objective that identifies that factor. Initially satisfaction judgments are based principally on inputs to the student. The more developed the student's goals are, the more his/her judgments are influenced by the outcomes, first by the institution's performance, but then by the student's achievements (Hartman & Schmidt, 1995; Sears, Boyce, & Boon, 2017). Success generates satisfaction which tends to reinforce students' expectations of future success (Lent & Brown, 2013).

A number of studies have equated "satisfaction" with positive student perceptions of the quality of the "services" offered by the university. For example, a study in Pakistan adapted SERVQUAL to assess student satisfaction in business schools (Ijaz, Irfan, Shahbaz, Awan, & Sabir, 2011). The study reviewed 19 other service quality models and isolated five dimensions of perceived quality: tangibles; reputation; cooperation and support; reliability; and responsiveness. All the quality items correlated highly with satisfaction. Candelas et al. (2013) identified six dimensions of satisfaction referring to: academic aspects; administrative aspects; complementary aspects; academic content; environment; and relationships. Studies in Mexico and Spain measured student satisfaction with curriculum content; teaching methods; infrastructure and facilities; professors' skills; and student's performance. Levels of satisfaction were most highly correlated with student's performance, and secondarily with professors' skills (Medrano & Pérez, 2010; Fernández, Fernández, Álvarez, & Martínez, 2007). In another study, however, the critical determinant of level of satisfaction was not the professors' skill but their relationship with the students (Salinas, Juan, & Pablo, 2008). An American study related students' satisfaction with different aspects of university life as well as to satisfaction with the curriculum of their degree program. Eleven distinct factors were identified as having moderate to high correlations with curriculum satisfaction (Tessema & Ready, 2012).

A few studies have assessed graduates' overall satisfaction with their academic programs (e.g., Garcia-Aracil, 2016). Graduates who were most satisfied with their course of study rated course content and non-academic social aspects (e.g., relationships with other students) very highly. Limited opportunities to participate in research projects and limited teaching materials and facilities (e.g. textbooks and labs) were major determinants of dissatisfaction.

Little research has been done to compare the satisfaction of students or graduates in different disciplines or fields of study. A study in Europe reported satisfaction scores for graduates from 11 countries and 8 fields of study, but not discuss variations in ratings of particular dimensions of satisfaction (Garcia-Aracil, 2016). We found one study that studied satisfaction of Psychology graduates in Griffith University, Queensland, Australia (Green, Hood, & Neumann, 2015) but none specifically for teachers.

2.2. Quality as defined by outcomes

Just as inputs to and the process of student formation can affect student satisfaction, so too can the consequences of outcomes. Graduates can feel satisfied with their training when they land a promising job; they can explain their employment situation in terms of the quality of the formation they received. As noted above, persistence is a consequence of satisfaction. Ease in obtaining a job is one contributor to the job's perceived value, using "value" as a qualitative, undefined expression of the rater's appreciation of the services received (Teixeira, Matos da Silva, & Oom do Valle, 2015). As perceived value increases so too does the prestige of the university from which one graduated. This contributes to higher rankings, inflates image (Hazelkorn, 2016), and attracts new students.

Note, however, that what students think about their program may not generalize to the university per se, and that the reputation of the university may be misleading with respect to the quality of a given program. A Norwegian study assessed the relationships between service quality, facilities, student satisfaction, image of the university college, image of the study program and student loyalty (defined as persistence or continuation in the university) (Helgesen & Nesset, 2007). Students made a clear distinction between their perception of the university, and that of the program in which they were enrolled. Student satisfaction was highly related to university loyalty (as evidenced by not dropping out), but the image (or reputation) of the university and that of the program were only slightly related. In other words, the reputation of a given university may be an unreliable (invalid) indicator of the quality of a given degree program.

Reputation is, nevertheless, the major component of popular systems that rank universities on their presumed quality (Bowman & Bastedo, 2011; Gibbons, Neumayer, & Perkins, 2015; Wächter et al., 2015). The rankings are derived from opinion and quantitative data about inputs and admission requirements. Little information is provided about the formation process or graduates' outcomes. The level of research production by professors has been offered as an indicator of quality but in fact other research shows that the number of publicatons is negatively related to measures of the quality of instruction (Dill & Soo, 2005). In the absence of studies that test the validity of ranking systems, they are deemed to be "largely invalid" (Pascarella, 2001).

Are earnings of graduates a valid measure of the quality of a university? Family income and parental education levels mediate early childhood experiences that have a profound impact on later physical and cognitive development (Heckman, 2008), which is assessed by universities in their admission process and employers in hiring. Rankings are significantly related to the SES of students admitted. As the child matures, gender, race, ethnic identity, and nationality increase in importance in affecting perceptions of university quality often through selectivity (Espinoza, 2008; Reimer & Pollak, 2010; Reardon, Baker, & Klasik, 2012). Also linked to SES, human capital acquired through schooling (Schultz, 1981) and social and cultural capital built up through associations with others, affect university attendance (Barone, 2006). Gender clearly is related to average salary (ILO, 2015) but in some cases may be the result of choice of profession more than a bias against women (Ma & Savas, 2014).

Research shows that many employers use university prestige (as conveyed by a ranking) to forecast a job candidate's productivity. Higher wages are given to the candidate from the university believed to be of higher quality (de Vries, Vázquez-Cabrera, & Rios-Treto, 2010; Humburg, Van der Velden, & Verhagen, 2013).

The effect of university reputation is significant, but explains only part of differences in individuals' incomes. Wage rates for employees vary according to the sector of the economy and the profit margin of the particular firm (Núñez & Livanos, 2010; Salas-Velasco, 2007). The importance of the university selectivity, however, is that it is associated with socio-economic status and therefore contributes to social stratification. No matter their families' SES, engineers can earn more than social scientists who can earn more than teachers, but on average each will earn less if they are graduates from a low selectivity institution (Eide, Hilmer, & Showalter, 2015). Because to date there is no accepted method of estimating the learning outputs of university degree programs (Wachter et al., 2015), we must be explicit in defining the kind of quality to which we refer.

Based on the review of research on student satisfaction we formulated the following research questions.

1. In these two programs and three universities, is graduates' satisfaction with their academic program generalizable to all facets of the university or specific to particular aspects?
2. If there are distinct dimensions in judgments about the quality of the degree program, do these vary with the graduates' individual characteristics? Specifically, are the dimensions associated with differences in family background, secondary school attended, or field of study?
3. What factors -family background, secondary school attended, degree program characteristics, university attended, and salary- are associated with differences in graduates' satisfaction with their degree program?

3. Methodology

This report is based on an exploratory study designed to identify the different dimensions used by graduates of some university degree programs. The quantitative data reported in this study are based on responses to questionnaires administered to a sample of graduates and analyzed using cross-tabular analysis, tests of mean differences, and linear regression.

3.1. Sample of participants

The universe of subjects for this study was all graduates for the years 2012–2014 from the degree programs in Psychology, and in Basic Education Teaching, offered by three specific universities located in Santiago, Chile. These universities and programs were

Table 1
Obtained Sample of Graduates by University, Program and Gender.

University Prestige	Program	Total Number of Graduates	Sample by Gender			Number Of Cases
			F	M	Total%	In Sample
High	Psychology	162	52	18	26.0	70
	Teaching	75	23	6	12.1	29
Mid-Low	Psychology	136	38	15	21.9	53
	Teaching	96	31	8	15.4	39
Low	Psychology	77	22	20	12.4	42
	Teaching	76	27	6	12.2	33
	Total	622	193	73	100.0	266

chosen to insure a sample that approximates the dispersion of scores on measures of family SES, cognitive ability, and secondary school selectivity. The two professional degree programs, Teaching and Psychology, rank 4th and 7th in size of total university enrollment in Chile (CNED, 2015). Of the 10 most popular degree programs in Chile, Teaching has the lowest net rate of economic return (about −0.1%) and Psychology ranks 5th at 0.2% (González-Velosa, Rucci, Sarzosa, & Urzúa, 2015).

As a proxy for university prestige, we used rankings of 57 universities in Chile. These were carried out by *America Economia,* a Latin American business magazine published since 1986.[1] The rankings are based on selectivity of admission, chararacteristics of the teaching staff (% full time, % with doctorates, research production), government accreditation, and international connections. The university labeled "High" is accredited, and ranked among the top 10 (of 60) institutions in Chile. It has been in existence for about 100 years. The university labeled "Mid-Low" was founded about 35 years ago and is accredited but ranked near the middle of the bottom half of Chilean universities. The third university, labeled "Low" was founded more recently, is not accredited and is ranked near the bottom.

The three universities use different criteria for admitting applicants. These include scores on the national University Selection Test (PSU), and secondary school grade point averages (GPA). The PSU, modeled after the SAT, has an average score of 500 with a standard deviation of 110. Scores correlate moderately (0.44) with first year university grade-point average (Pearson, 2013). The university with the highest reputational ranking (High) admits applicants with PSU scores above 600. Persons who score below that level but at least at 475 are admitted if their secondary school GPA is 5.25 or better (with 7 being the top grade). The university with a Mid-Low ranking admits applicants who score 475 or better on the PSU. The university with the Low ranking requires students to take an admission examination but all secondary school graduates are accepted.

About one-half of all graduates from the two programs in the three universities were chosen randomly and contacted over the Internet during the months of November and December 2015. The final results of the sampling process are described in Table 1.

3.2. Variables

3.2.1. Pre-university

Information about the background of graduates before entering university included mothers' education level, type of secondary school from which graduated, age and gender. Mother's instead of father's educational attainment was chosen as a more reliable predictor of academic success (Chiu & Khoo, 2005). Municipal secondary schools are public and open to all students, while private state-subsidized schools are privately owned and selective. The frequency and means of responses appear in Table 2. Dummy variables (0/1) were created for Mother's education (MotherHigher), secondary school attended (Municipal, Voucher), Age (LessThan27) and gender (Female). The differences in level of Mother's Education by university prestige are not significant. Equal proportions of women graduated from the three universities. Graduates of the Low ptrestige university were more likely to have attended a voucher (state-subsidized) secondary school and to be older.

3.2.2. Progress through program

A second set of questions asked about the length of the graduates' academic program. As some students transferred from other universities they spent less time in their degree program; others repeated courses, others were not full-time. The range of years in the university from which they obtained their degree was 1–14. Time in the university is not related to age.

A small per cent (less than 10%) of the graduates in both fields had not yet received their license (2 years or more after completing courses). Teaching graduates (64.4%) were more likely to receive their license within the regular time period (4.5 years) than were Psychology graduates (38.2% in 5 years). We computed a dummy variable (FullTime) distinguishing between the 129 graduates who completed in regular time and the 138 who did not. Women are more likely to have be identified as having been full time students than are men (52.3%–37.0, p = .018).

Some 102 (of 165) Psychology graduates and 39 (of 101) Teaching graduates took additional courses after completing their degree program. More than half of the Psychology graduates, having completed their degree program pursued a Diplomado (a non-degree specialization). This difference is statistically significant. We created dummy variables for the various paths taken. Table 3

[1] http://rankings.americaeconomia.com/mejores-universidades-chile-2014/.

Table 2
Background of Students By University Prestige.

	High	Mid-Low	Low	N	Signif.
Mother's Education					
University	28.3%	25.0%	29.3%	73	
Some Post-Secondary	22.8	22.8	18.7	22	$\chi^2 = 3.04$
Complete Secondary	27.3	28.3	28.0	74	p = .803
Less than Secondary	17.1	23.9	24.0	57	
Student's Secondary					
Municipal	35.4%	35.9%	14.7	79	$\chi^2 = 14.61$
Voucher	45.5	53.2	69.5	164	p = .006
Private	19.2	10.9	16.0	41	
Student's Age	26.6	27.5	29.9	266	F = 11.09
					p < .000
Gender (female)	75.8%	75.0%	65.3	266	$\chi^2 = 2.53$
					p = .253

Table 3
Average Scores on Time in Program By University.

	High	Mid-Low	Low	Mean	SD	Sig.
Years in University	5.54	5.32	4.75	5.24	1.48	**
FullTime	0.32	0.47	0.71	0.48	0.50	***
Diplomado	0.31	0.21	0.25	0.26	0.44	
PostDegree	0.09	0.17	0.07	0.11	0.32	
N	99	92	75	266		

** Difference in means significant at p = .01.
*** p < .00.

reports their means and standard deviations. The variable Years in University is the total number of years enrolled. FullTime refers to students who graduated in the standard time for that degree; Diplomado is the proportion who obtained an additional Diploma after graduation, and PostDegree refers to students who took additional courses without seeking a diploma.

3.2.3. Satisfaction with the program

The third set of variables is based on responses to 26 statements about elements of the program experienced by the graduate.[2] The graduates, using a 4-point Likert Scale format (Strongly Disagree, Disagree, Agree, Strongly Agree) responded to positive statements about different aspects of their degree programs. Similar scales have been used to study the link between undergraduate satisfaction, retention and academic performance (Kao, 2007; Stephens, 2014; Valenzuela & Requena, 2006). The statements describing aspects of the degree program are listed in Table 4.

Responses to the 26 statements are significantly but not highly correlated with each other. To identify the dimensions of satisfaction we carried out an oblique rotation of a Principal Components factor analysis. This rotation produced four distinct factors, as shown in Table 4. Four of the 26 items which did not enter the final solution are listed at the bottom of the table. The significant items in each factor were combined into scales; their statistical characteristics appear in Table 5.

The first scale, with 8 items, is labeled Outcome Satisfaction as its items refer to experiences after graduation. The overall average score of 3.00, equivalent to Agree, suggests approval but not enthusiastic endorsement of the degree program. The scale is highly reliable (Cronbach alpha 0.91). The second scale, labeled Facilities Satisfaction, refers to judgments about materials, libraries and labs available to students. This scale is sufficiently reliable and, as we will see, varied significantly between universities and programs. The third scale, Work Linkage, refers to whether elements of the program were directly work-related. The lower average on this scale implies that many graduates, although happy with their program, would have liked more applied content. This scale has only three items, and is not highly reliable. The fourth scale is about the academic content of the program. The 7 items refer to curriculum in terms of its clarity, comprehensiveness, and delivery. Although average scores are high, this scale has the lowest reliability, implying significant individual and program variability.

3.2.4. Employment experiences

Only 1% of the graduates had, at the time of the study, not found employment. A sizeable proportion (30.1%) was already working by time of graduation, and 50% more had jobs within six months after graduation (Table 6). Lack of employment does not seem to be a serious issue for this sample of university graduates in Chile.

Applicants for teaching positions in Chile are first hired for a provisional period during which they work only three-quarter time. Psychology graduates took longer to begin employment. As noted above, more than the Teaching graduates, the psychologists took

[2] Item 21 was a negative statement, while all the others are positive. This apparently confused the respondents, so it was dropped from the analysis.

Table 4
Questionnaire Items and Factor Loadings, Pattern Matrix.

Questionnaire Item	I	II	III	IV
2. The training I received in my degree program was of high quality.	0.731			
3. If I had the opportunity to take my program again I would choose the institution where I studied.	0.802			
4. As a graduate of the program and the institution where I studied I have a professional identity.	0.783			
5. The program gave me a training that permitted me to take one the process of obtaining the academic degree and professional title without problems.	0.710			
6. The theoretical training that the degree program gave me was adequate.	0.563			
11. The training I received was sufficient to perform satisfactorily in the world of work.	0.528			
14. When I compare myself with graduates from other programs I am aware that the reaction of employers was more favorable toward us.	0.665			
20. The course contents were appropriate for my training and performance as a professional.	0.507			
23. The institution was constantly concerned about improving the quality of the infrastructure.		0.702		
24. The program in which I studied always provided the (means) (equipment) for activities (seminars, field trips, etc) necessary for my training.		0.783		
25. The institution and the program had an adequate library and places to study.		0.875		
26. The lab and workshop sessions were correctly implemented.		0.826		
10. The program and/or institution where I studied had a good policy with respect to the labor force.			0.539	
13. On graduating from the program, I was hired at a level that met my professional expectations and income requirements.			0.577	
15. The study plan included activities that linked students to the work place.			0.706	
1. My degree program was very demanding.				−0.532
9. When I studied the program they exposed me to the curriculum.				−0.623
16. The study plan and course program was fulfilled completely.				−0.712
17. The curriculum seemed coherent and flexible to me.				−0.741
18. The curriculum proposal clearly identified the minimal knowledge and skills required to graduate.				−0.610
19. The learning objectives of the Study Plan were made clear to me.				−0.672
22. The teaching styles of the program were motivating and stimulated participation.				−0.594
Unique Variance Explained	44.3%	8.9%	5.7%	4.5%
Variables not included in the factor scores				
7. The practical training that the program gave me was appropriate.	0.383	0.043	0.162	−0.326
8. The personal and value training the program gave me was superb.	0.495	0.176	−0.098	−0.354
12. The preparation for work that the program gave me matched the requirements of the workplace.	0.449	−0.047	0.417	−0.257
21. The course activities made it possible for me to combine theory and practice in the work place.	0.382	0.024	0.260	−0.407

Note: Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
Rotation converged in 27 iterations.

Table 5
Characteristics of Scales Based on Factor Analysis.

Factor Scale	Mean	S.D.	Alpha	# Items
I Outcome Satisfaction	3.00	0.66	0.91	8
II Facilities Satisfaction	2.84	0.74	0.82	4
III Work Linkage Satisfaction	2.44	0.70	0.65	3
IV Curriculum Satisfaction	3.00	0.89	0.61	7

Table 6
Time to Employment By Degree Program.

Time to Employment	Teaching	Psychology	Total	
Before graduation	34.7%	27.2%	77	30.1%
Less than 2 months	33.7	28.5	78	30.5
2–6 months	21.4	27.2	64	25.0
More than 6 months, or not yet working	10.2	17.1	31	14.4
Total	158	98	256	100.0%

more courses after graduation, perhaps in order to qualify for specific positions. Most (60%) of the Psychology graduates are employed in the public sector, while 67% of the Teaching graduates are in the private sector (most in state-subsidized schools).

Table 7 compares graduates by monthly earnings. The middle earnings category–US$750 to $1500–includes the 2014 income per capita (GDP/capita) for Chile, approximately US$1185 per month (United Nations Statistics Division, 2015). Psychologists' earnings were on average higher than those in Teaching, but not for the group that graduated in 2014 which had completed the provisional period. Some of the Psychology graduates in the private sector are self-employed; their hours of work and incomes are highly variable. Psychology graduates in the public sector who are in managerial positions earn much more than do school principals.

Table 7
Estimated Monthly Income of Graduates by Profession.

Program	<US$750		US$750–1500		>US$1500		Total
	N	%	N	%	N	%	N
Psychology	31	19.7	93	59.2	33	21.0	157
Teaching	36	38.3	55	58.5	3	3.2	94
TOTAL	67	26.7	148	59.0	36	14.3	251

3.2.5. Job satisfaction

The questionnaire included three questions about current employment. The first asked the degree to which their current job is related to their degree program. More than 86% responded highly or very highly related. Teaching graduates were more likely than Psychology graduates to respond "Very Highly". Another question asked, "In view of your current work situation, how do you see yourself as a professional?" The response alternatives ranged from "Very Successful" to "Only a Little" with an option to avoid judgment. Teaching graduates were slightly more likely to see themselves as very successful; 38% of the two groups chose the "Moderately" alternative. Six persons in the Psychology group chose "I don't know."

The third question asked graduates about their current work and economic situation. Less than 12% chose "Unsatisfactory" but about half chose the "Moderately Satisfactory" and only 7% were highly satisfied. There were no differences in responses by degree program. We used answers to this question as an indicator of job satisfaction.

4. Results

Our first objective in this analysis was to identify the variables related to the distinct dimensions of graduates' satisfaction with their degree program. Given that, we then sought to understand which of those variables and dimensions are related to employment outcomes and specifically to job satisfaction.

For the first objective, we constructed a series of regression equations relating variables to the four scales representing different kinds of program satisfaction (see Table 8). Although there is a modest effect of attendance at a state-subsidized (Voucher) school, the variance in Outcome Satisfaction is not related to mother's education, type of secondary school attended, age or gender of the graduate. The squared regression coefficients for Facilities and Linkage Satisfaction are statistically significant but small. On the other hand, the combined background variables explain 11.4% of the variance in Curriculum Satisfaction. The critical variables are Mother's Education and school attended. Graduates who attended state-subsidized or municipal secondary schools are more likely to be satisfied with the content and methods of their degree program than are graduates who attended a private school.

In the next step we included the variables that describe how long it took to complete the program. We also included Psychology as a dummy variable for the program attended.

As shown in Table 9 below, the inclusion of these variables makes it possible to account for 11% of the variance in satisfaction with facilities, and 13% of variation with the curriculum. Graduates who attended a state-subsidized secondary school were more satisfied with their degree program. Students who took additional courses, either to obtain a diploma or merely as specialization, are less satisfied with facilities, as are graduates in Psychology. The same pattern is observed for Curriculum Satisfaction, with the additional variable of Mother's Education. Graduates whose mothers had post-secondary education were more positive about the content and delivery of the curriculum.

These relationships are not, however, constant across universities. Graduates from the LowPrestige university have significantly lower Outcome Satisfaction scores, while graduates from the HighPrestige university have higher scores than the average for the three universities; MidLowPrestige university students fall in the middle. The same differences are seen using FacilitiesSatisfaction but not for the other two scales.

Is there a relationship between graduates' satisfaction with their degree program and their length of time in the university? Time to Complete is unrelated to any of the measures of satisfaction. Scores on the Overall and Facilities Satisfaction scales were lower for

Table 8
Linear Regression Background (Dummy) Variables. On Program Satisfaction Scales: Unstandardized beta coefficients.

Variables	Outcome Satisfaction	Facilities Satisfaction	Linkage Satisfaction	Curriculum Satisfaction
Constant	2.776***	2.242***	2.120***	2.604***
MotherHigher	.103	.178	.100	.269***
Municipal	.200	.352*	.200	.208
Voucher	.271*	.342*	.356**	.438***
LessThan27	−.010	−.090	.001	−.038
Female	−.037	−.052	.015	−.047
Adjusted R^2	.011	.035*	.026*	.114***

Significance * = <.05, ** = <.01, *** = <.001.

Table 9
Linear Regression of Background and Process Variables. On Program Satisfaction Scales.

Variables	Outcome Satisfaction	Facilities Satisfaction	Linkage Satisfaction	Curriculum Satisfaction
Constant	2.531***	2.335***	2.470***	2.791***
MotherHigher	.140	.159	.040	.241**
Municipal	.192	.314*	.179	.197
Voucher	.301*	.340**	.320**	.429***
LessThan27	.005	−.112*	−.059	−.081
Female	−.021	−.042	−.001	−.053
TimetoComplete	.041	.021	−.011	.000
Diplomado	−.331**	−.207*	−.074	−.091
PostDegree	−.009	−.376	−.064	−.131
Psychology	.111	−.267*	−.287**	−.122
Adjusted R^2	.053**	.114***	.058**	.134***

Significance * = <.05, ** = <.01, *** = <.001.

graduates ho had taken more courses to obtain a Diploma. On the other hand, there is no difference in scores on these two scales for those who merely took additional courses.

To assess the contribution of the various sources of program satisfaction to job satisfaction we individually correlated the four program scales with answers to the question about satisfaction with employment ("How satisfactory is your current work and economic situation? Very satisfactory, Satisfactory, Moderately Satisfactory, Unsatisfactory"). Scores on the Outcome Satisfaction and Curriculum scales are unrelated to those on Job Satisfaction, scores on the Facilities and Linkage Satisfaction scores have a moderte but statistically significant correlation.

We then regressed the variables related to program satisfaction on Job Satisfaction. The results are summarized in Table 10, presented in four steps to show clearly the independent effect of the program variables and income on Job Satisfaction.

Considered without other variables, each of the four scales has an independent effect on Job Satisfaction. Among Psychology graduates, however, Outcome Satisfaction has no significant effect on Job Satisfaction, indicating that scores on the Outcome scale are influenced by something other than what determines scores on the other three scales. The Diplomado dummy is included because of its negative sign. Those graduates with more training are less satisfied with their jobs. Adding Income to the equation shows that the job satisfaction of graduates depends on their salary. Graduates who pursued a diploma are particularly dissatified with their earnings.

5. Discussion

As prior research has demonstrated (e.g. Azoury, Daou, & El Khoury, 2014; Kao, 2007) graduates attributed their satisfaction with their university program both to the perceived quality of the university and to aspects of their program. Graduates from the high prestige university had reason to expect that they would do well when seeking employment, and they did. They justify their success by describing their degree program as preparing them well. Graduates from the lower prestige universities perhaps finished their studies with lower expectations, but were pleasantly surprised by the relative ease of finding employment. Significantly, their praise for their degree program was not in terms of specific job preparation but rather good academic formation.

Graduates who went to private secondary schools were least satisfied with their university programs, perhaps because they had expected better job outcomes. Those who went to less prestigious secondary schools were more satisfied; employment outcomes after university were better than expected. Did private secondary school graduates expect better salaries because of their presumed superior preparation? Studies in Chile and elsewhere found little difference in how much students' comparing public, subsidized-private and fee-paying private schools (Carnoy, 2017; Lubienski & Lubienski, 2013), and there is no research indicating the employers consider the prestige of secondary school attended when they hire university graduates.

With respect to the second hypothesis, and as other research has demonstrated (Campostrini & Gerzeli, 2007; Feistauer & Richter,

Table 10
Regression of Degree Program Variables And Income on Job Satisfaction.

Variables	Step 1	Step 2	Step 3	Step 4
Constant	1.680***	1.416***	1.486***	1.132
Outcome Satisfn	.206*	.138	.099	−.024
Facilities Satisfn	.236**	.208***	.256***	.161*
Linkage Satisfn	.222*	.267**	.276**	.263**
Curriculum Satisfn	.353**	.313*	.297**	−.189
Psychology		.385**	.328**	.195
Diplomado			−.164	−.260*
Income				.414***
Adjusted R^2	.080***	.104***	.108***	.193***
F	6.468	6.748	6.039	9.517

2017) satisfaction of graduates with their degree program is multi-dimensional, even if there is not yet consensus on dimensions (Spooren, Brockx, & Mortelmans, 2013). Some of the dimensions of satisfaction may be influenced by earnings on the job, but others clearly or not. The independent effect of Facilities and Linkage satisfaction, even when taking income level into account, indicates that the judgments are not based principally on the job's salary level. As anticipated above, however, Outcome Satisfaction can be considered as highly related if not equivalent to job satisfaction. The higher level of job satisfaction of Psychology graduates as compared to Teaching graduates is explained not because they were more satisfied with their degree program, but because they are receiving higher incomes. Actually the Teaching graduates were more satisfied than Psychology graduates with the Facilities and Linkage aspects of their program.

This study confirms that starting salaries are influenced by the prestige of the university, as reported by other studies (Jung & Lee, 2016), but more important is the salary received, followed by the perceived quality of the training program. Taking salary into account, there is no difference between Psychology and Teaching.

Given evidence that over time employers rely more on employees' performance in awarding salaries, paying less attention to where and what they studied (Eide et al., 2015), we can expect that the quality of their degree program will explain more of graduates' satisfaction.

5.1. Limitations

The conclusions to be drawn from this study may have limited generalizability, to other degree programs and other universities, in Chile as well as in other countries. The sample was intended to include all graduates of the two programs selected, but it was not possible to ascertain if all graduates did in fact respond participate in the survey. The results should not be taken to characterize the relationship between program quality and job satisfaction in all universities. The factors that influence judgments of quality in one degree program, university and national setting may well differ from those in other settings. Salaries vary widely not just across sectors of the economy, but also between occupations hiring graduates from different academic fields.

In this study, "quality" is based on subjective judgments of the respondents. These judgments may well vary as a function of relatively recent events that have little to do with earlier experiences in the students' academic career. Although the questionnaire asked about fulfillment of expectations, for example, we have no information about the longevity or stability of those expectations. The study tells us nothing about the relative impact of how judgments of quality are moderated by expectations formed prior to commencement of the program or during the program.

6. Conclusion

On the basis of this study, one might conclude that most university graduates in Chile are, despite protests about low university quality, satisfied with the education they received. And most are reasonably satisfied with their conditions of employment. While reasonable, these conclusions could be misleading to policy makers and university administrators who would like to avoid future criticisms. The study indicates clearly that "satisfaction" is a complex abstraction. In reality, most judgments are specific reactions to particular aspects of a condition or situation. Degree programs vary in their content and activities within and across universities. Chile differs from other Latin American countries and those in other continents. Generalizations can be made, but averages hide significant differences. University graduates might well state that "all in all, it wasn't so bad" but at the same time be very critical of particular aspects of their student experiences, or of the (lack of) coherence between their training and what employers demand from them.

In addition, judgments are moderated by expectations: even a good program might be criticized if participants had expected something outstanding. In that sense university reputations are a double-edged blade, on the one hand attracting students to enroll, on the other setting high standards that if not met fully generate criticism. This is most likely to occur when the basis for the prestige is hearsay rather than tangible evidence. Much more has to be learned about how students' expectations change during the course of their academic career.

In the absence of true measures of the quality of university education —measures of learning outcomes and measures of coherence of outcomes with the actual requirements of employers-consumers of higher education will rely on reputational measures. These may be no more reliable than those made by one betting at the race track who relies on knowledge of the performance of the competing horses in previous races, and tips from the grooms in the stables. That information reduces uncertainty a bit, but the outcome also depends on whether it rained last night, the jockeys' and horses' health and disposition to win, and other "random" events. Employment outcomes for graduates are influenced by even more variables such as the ups and downs of the general economy, and specifically by conditions in the particular labor market in which they are looking for work. Even with reliable and valid measures of university quality, decisions made four or more years in advance of entry into the labor force are chancy.

Employment outcomes are influenced by innate characteristics of graduates (unmeasured here) but also by their education, but those effects are moderated by characteristics such as motivation or personality. Outcomes are also influenced by the particular conditions and requirements of employers, which change over time as a result of both internal processes as well as the social context in which they operate. It is unreasonable, therefore, to expect a very high correlation between university attended and future employment.

In response to student complaints and unrest, however, efforts to improve university quality may serve as an earnest of purpose, as a demonstration of good intentions. A more effective approach, however, would be to focus on the establishment of reasonable expectations for parents and students, and for employers, with respect to how education should be articulated with the economy. This

will be an ongoing process in Chile as elsewhere, as our societies and economies are dynamic institutions, undergoing rapid change. Universities, if they once could serve society well as ivory towers, must now be active agents in social systems. Economic institutions for their part must also see themselves as dynamic, learning organizations, integrated with other institutions in society.

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References

Azoury, N., Daou, L., & El Khoury, C. (2014). University image and its relationship to student satisfaction- case of the Middle Eastern private business schools. *International Strategic Management Review, 2*(1), 1–8. http://dx.doi.org/10.1016/j.ism.2014.07.001.

Barone, C. (2006). Cultural capital, ambition and the explanation of inequalities in learning outcomes: A comparative analysis. *Sociology, 40*(6), 1039–1058.

Bordón, P., & Braga, B. (2013). *Employer learning, statistical discrimination and university prestige.* Ann Arbor, Michigan: University of Michigan.

Bowman, N. A., & Bastedo, M. N. (2011). Anchoring effects in world university rankings: Exploring biases in reputation scores. *Higher Education, 61*(4), 431–444. http://dx.doi.org/10.1007/s10734-010-9339-1.

Campostrini, S., & Gerzeli, S. (2007). Informative sources for the evaluation of the university education effectiveness in Italy. In L. Fabbris (Ed.). *Effectiveness of university education in Italy* (pp. 1–9). Physica-Verlag HD. http://dx.doi.org/10.1007/978-3-7908-1751-5_1.

Candelas, Carlos, Gurruchaga, María, Mejías, Agustin, & Flores, Luis (2013). Medición De La Satisfacción Estudiantil Universitaria: Un Estudio De Caso En Una Institución Mexicana. *Iberoamerican Journal of Industrial Engineering, 9*(5), 261–274.

Carnoy, Martin (2017). *School vouchers are not a proven strategy for improving student achievement show that the risks to school systems outweigh insignificant gains in test scores and limited gains in graduation rates.* Washington DC: Economic Policy Institute. Retrieved from http://www.epi.org/files/pdf/121635.pdf.

Chacón, Ricardo (2015). *"The university as an agent of social change: The Chilean experience". PhD diss.* Auckland: Auckland University of Technology.

Chiu, Ming, & Khoo, Lawrence (2005). Effects of resources, inequality, and privilege bias on achievement: Country, school, and student level analyses. *American Educational Research Journal, 42*(4), 575–603. http://dx.doi.org/10.3102/00028312042004575.

CNED (2015). *Tendencias Indices 2015 [Trends Index 2015].* Santiago, Chile: Consejo Nacional de Educación.

Cummings, P. M. M. (2015). Student discontent: Chilean student protest in the post- Pinochet era. *Journal of Politics in Latin America Democracy, 7*(3), 49–84. Retrieved from http://nbn-resolving.org/urn/resolver.pl?urn:nbn:de:gbv:18-4-9009.

de la Fuente Mella, H., Marzo Navarro, M., & Reyes Riquelme, M. J. (2010). Análisis De La Satisfacción Universitaria En La Facultad De Ingeniería De La Universidad De Talca. *Ingeniare. Revista Chilena de Ingeniería, 18*(3), 350–363. http://dx.doi.org/10.4067/S0718-33052010000300009.

de Vries, W., Vázquez-Cabrera, R., & Rios-Treto, D. (2010). Millonarios o malparados: ¿de qué depende el éxito de los egresados universitarios? *Revista Iberoamericana de Educación Superior, 4*(9)http://ries.universia.net/index.php/ries/article/view/273/html_37.

Dill, D. D., & Soo, M. (2005). Academic quality, league tables, and public policy: A cross-national analysis of university ranking systems. *Higher Education, 49*(49), 495–533. http://dx.doi.org/10.1007/S10734-004-1746-8.

Eide, E. R., Hilmer, M. J., & Showalter, M. H. (2015). Is it where you go of what you study? The relative influence of college selectivity and college major on earnings. *Contemporary Economic Policy, 34*(1), 37–46. http://dx.doi.org/10.1111/coep.12115.

Espinoza, O. (2008). Creating (in) equalities in access to higher education in the context of structural adjustment and post-adjustment policies: The case of Chile. *Higher Education, 55*(3), 269–284.

Espinoza, Oscar, & González, Luis Eduardo (2013). Causes and consequences of the student protests in Chile. In Heinz Dieter Meyer, Edward St. John, Maia Chankseliani, & Lina Uribe (Eds.). *Fairness in access to higher education in a global perspective: reconciling excellence, efficiency, and justice* (pp. 239–258). Rotterdam: Sense Publishers.

Feistauer, D., & Richter, T. (2017). How reliable are students' evaluations of teaching quality? A variance components approach. *Assessment & Evaluation in Higher Education, 42*(8), 1263–1279. http://dx.doi.org/10.1080/02602938.2016.1261083.

Fernández, J. Esteban, Fernández, Samuel, Álvarez, Alberto, & Martínez, Pablo (2007). Éxito académico y satisfacción de los estudiantes con la enseñanza universitaria [Academic success and student satisfaction with university education]. *RELIEVE, 13*(2), 203–214.

Garcia-Aracil, A. (2016). European graduates' level of satisfaction with higher education. *Higher Education, 57*(1), 1–21. Springer. URL: http://www.jstor.org/stable/40269103.

Gibbons, S., Neumayer, E., & Perkins, R. (2015). Student satisfaction, league tables and university applications: Evidence from Britain. *Economics of Education Review, 48*(September), 148–164. http://dx.doi.org/10.1016/j.econedurev.2015.07.002.

González, Luis Eduardo, & Espinoza, Oscar (2008). *Calidad de la educación superior: concepto y modelos*, *28*, Calidad En La Educación248–276.

González-Velosa, Carolina, Rucci, Graciana, Sarzosa, Miguel, & Urzúa, Sergio (2015). *Returns to higher education in Chile and Colombia. IDB Working Paper Series Nº IDB-WP-587.* Washington, D.C: Inter-American Development Bank.

Green, H. J., Hood, M., & Neumann, D. L. (2015). Predictors of student satisfaction with university psychology courses: A review. *Psychology Learning & Teaching, 14*(2), 131–146. http://dx.doi.org/10.1177/1475725715590959.

Hartman, David, & Schmidt, Sandra (1995). Understanding student/alumni satisfaction from a consumer's perspective: the effects of institutional performance and program outcomes. *Research in Higher Education, 36*(2), 197–217.

Harvey, L., & Askling, B. (2003). Quality in higher education. In R. Begg (Ed.). *The dialogue between higher education research and practice* (pp. 69–83). Dordrecht: Kluwer Academic Publishers. http://dx.doi.org/10.1007/978-0-306-48368-4_6.

Hazelkorn, Ellen (2016). The effect of rankings on student choice and institutional selection. In Ben Jongbloed, & Hans Vossensteyn (Eds.). *Access and expansion post-massification: Opportunities and barriers to further growth in higher education participation* (pp. 107–128). London: Routledge.

Humburg, Martin, Van der Velden, Rolf, & Verhagen, Annelore (2013). *The Employability of Higher Education Graduates: The employers' perspective.* Maastricht University: Maastricht: Research Centre for Education and the Labour Market.

Ijaz, Aamir, Irfan, Syed, Shahbaz, Saman, Awan, Muhamood, & Sabir, Mudhir (2011). An Empirical Model of student satisfaction: Case of Pakistani Public Sector Business Schools. *Journal of Quality and Technology Management, VII*(II), 91–116.

ILO (2015). *Global Wage Report 2014/2015*Geneva: International Labour Organization.

Inzunza Melo, B., Ortiz Moreira, L., Pérez Villalobos, C., Torres Araneda, G., McColl Calvo, P., Meyer Kother, A., ... Bustamante Durán, C. (2008). Estructura factorial y confiaiblidad del Cuestionario de Satisfaccion Acadpemica de los estudiantes de Medicina chilenos. *Revista Iberoamericana de Diagnóstico y Evaluación - e Avaliação Psicológica, 2*(40), 73–83. Retrieved from http://www.redalyc.org/articulo.oa?id=459645432008.

Jung, J., & Lee, S. J. (2016). Influence of university prestige on graduate wage and job satisfaction: The case of South Korea. *Journal of Higher Education Policy and Management, 38*(3), 297–315. http://dx.doi.org/10.1080/1360080X.2016.1174408.

Kao, T. (2007). *University student satisfaction: An empirical analysis.* Christchurch, New Zeeland: Lincoln Univeristy.

Lent, Robert, & Brown, Steven (2013). Social cognitive model of career self-management: Toward a unifying view of adaptive career behavior across the life span. *Journal of Counseling Psychology, 60*(4), 557–568.

Lubienski, Christopher, & Lubienski, Sarah (2013). *The public school advantage : why public schools outperform private schools.* Chicago: Unversity of Chicago Press.

Ma, Y. Y., & Savas, G. (2014). Which is more consequential: Fields of study or institutional selectivity. *Review of Higher Education, 37*(2), 221–247. Retrieved from

http://apps.webofknowledge.com.ezp-prod1.hul.harvard.edu/full_record.do?product=WOS&search_mode=CitingArticles&qid=5&SID=5FwFhWroQnH3vVn3mZt&page=3&doc=21.
Medrano, Leonardo, & Pérez, Edgardo (2010). Adaptación de la Escala de Satisfacción Académica a la Población Universitaria de Córdoba [Adaptation of the Scale of Academic Satisfaction to the University Population of Córdoba]. *SUMMA Psicológica UST, 7*(2), 5–14.
Núñez, Imanol, & Livanos, Ilias (2010). Higher education and unemployment in Europe: an analysis of the academic subject and national effects. *Higher Education, 59*(4), 475–487.
Palominos, Pedro, Quezada, Luis, Osorio, Claudio, Torres, Jorge, & Lippi, Luis (2016). Calidad de los servicios educativos según los estudiantes de una universidad pública en Chile [Quality of educational services according to the students of a public university in Chile]. *Revista Iberoamericana de Educación Superior, VII*(18), 130–142.
Parasuraman, A., Zeithml, Valarie, & Berry, Leonard (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing, 64*(1), 12–40.
Pascarella, E. T. (2001). Identifying excellence in undergraduate education: Are we even close? *Change, 33*(3), 19–23.
Pearson (2013). Final Report Evaluation of the Chile PSU 22 January 2013. London. Retrieved from http://portales.mineduc.cl/usuarios/mineduc/doc/201301311057540.Chile_PSU-Finalreport.pdf: Pearson PLC.
Reardon, Sean, Baker, Rachel, & Klasik, Daniel (2012). *Race, Income, and Enrollment Patterns in Highly Selective Colleges, 1982–2004*.
Reimer, David, & Pollak, Reinhard (2010). Educational expansion and its consequences for vertical and horizontal inequalities in access to higher education in West Germany. *European Sociological Review, 26*(4), 415–430.
Rolwing Kelvin, Clark Nick (2013). Higher Education in Chile. World Education News & Report, December 6. Retrieved January 15, 2017, from http://wenr.wes.org/2013/12/introduction-to-the-higher-education-system-of-chile.
Salas-Velasco, Manuel (2007). The transition from higher education to employment in Europe: the analysis of the time to obtain the first job. *Higher Education, 54*(3), 333–360.
Salinas, Agapito, Juan, Morales, & Pablo, Martínez (2008). *Satisfacción del estudiante y calidad universitaria: Un análisis explicatorio en la unidad académica multi-disciplinaria Agronomía y Ciencias de la Universidad Autónoma de Tamaulipas, México [Student satisfaction and university quality: An explanatory analysis in the academic unit of the Agronomy and Sciences of the Autonomous University of Tamaulipas, Mexico]*, *31*, Revista de Enseñanza Universitaria39–55.
Schultz, Theodore (1981). *Investing in people: the economics of population quality*. Berkeley, CA: University of California Press.
Sears, Christopher, Boyce, Melissa, & Boon, Susan (2017). Predictors of students' satisfaction in a large Psychology undergraduate program. *Canadian Psychology, 58*(2), 148–160.
Soto Hernandez, V. J. (2016). Estudiantes de primera generación en Chile: una aproximación cualitativa a la experiencia universitaria/First-generation students in Chile: A qualitative approach to university experience. *Revista Complutense de Educación, 27*(3), 1157–1173. http://dx.doi.org/10.5209/rev_RCED.2016.v27.n3.47562.
Spooren, P., Brockx, B., & Mortelmans, D. (2013). On the validity of student evaluation of teaching: The state of the art. *Review of Educational Research, 83*(15), 598–642. Retrieved from http://www.jstor.org/stable/24434223.
Stephens, P. (2014). *Undergraduate student satisfaction: Investigating the measurement, dimensionality, and nature of the construct using the Rasch Model.* University of Kentucky. Retrieved from http://uknowledge.uky.edu/cgi/viewcontent.cgi?article=1026&context=epe_etds.
Teixeira, Sofia, Matos da Silva, Joao, & Oom do Valle, Patricia (2015). A model of graduates' satisfaction and loyalty in tourism higher education: The role of employability. *Journal of Hospitality, Leisure, Sport & Tourism Education, 16*, 30–42.
Tessema, Mussie, & Ready, Kathryn (2012). Factors affecting college students' satisfaction with major curriculum: evidence from nine years of data. *International Journal of Humanities and Social Science, 2*(2), 34–44.
United Nations Statistics Division (2015). Country Profile Chile. Available at: http://data.un.org/CountryProfile.aspx?crName=CHILE.
Wächter, Brend, Kelo, Maria, Lam, Quennie, Effertz, Philipp, Jost, Cristoph, & Kottowski, Stefanie (2015). *University quality indicators: a critical assessment.* Brussels: European Parliament, Policy Department. Available at: http://www.europarl.europa.eu/RegData/etudes/STUD/2015/563377/IPOL_STU%282015%29563377_EN.pdf.
Valenzuela, A., & Requena, C. (2006). *Grado de satisfacción de estudiantes de la universidad de Chile.* 49.