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Investigating the major factors that contribute to satisfaction with university formation in Psychology and Teaching in Chile

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ABSTRACT

The objective of this study was to understand which factors contribute most to Psychology and Teaching graduates' satisfaction with their university professional formation. Two factors were assessed: the level of admissions selectivity by the university attended, and the salary received once employed. The participants graduated from three universities in Chile, one public and two private selected as representing three levels of university selectivity. The sample was constructed by random selection among five cohorts of graduates, from 2012 to 2016. A self-report questionnaire was administered on two occasions, in 2015 for the first three cohorts and in 2017 for the last two. The obtained sample included 587 graduates, in Psychology and in Teaching of Basic Education. The results reveal that selectivity is related to graduates' satisfaction with their university experience; the more selective the university in which they are admitted, the more graduates are satisfied. Salary, on the other hand, is related to satisfaction only in the case of the least selective university. The findings provide some directions for how universities can improve graduates' satisfaction.

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Introduction

Access to higher education in Chile has grown rapidly in recent years. The number of university students expanded from 131,702 in 1990 to 749,149 in 2019 (Servicio de Información de Educación Superior, 2019a). In part, this rapid growth of enrollments is in response to the high rate of private return to investment in university education.

Chilean universities, like those in Europe, prepare students to exercise a particular profession. Their professional license is awarded on completion of the university's program requirements. Both students and employers regard the university experience as providing knowledge and skills essential in the labor force, rather than as a general education in the arts and sciences. There is no doubt that in Chile a professional degree offers the possibility of earning an income much higher than that received by those without such a title. This has been well-documented by the Supplementary Income Survey carried out yearly by the National Statistical Institute of Chile (Instituto Nacional de Estadísticas, 2018) and by

various other studies (Améstica et al., 2014; Canales & De Los Ríos, 2007; Mizala & Lara, 2015; Urzúa, 2012).

Prospective students (and their families) believe that universities that are selective, that admit only a small portion of their applicants, provide better preparation. Graduates of selective universities are presumed to receive higher salaries once employed (Ma et al., 2016; Psacharopoulos & Patrinos, 2018; Webber, 2015).

One outcome of the growth in enrollments has been a significant increase in the supply of professionals in the labor market. Some fields can be said to be overcrowded, in the sense that it is more difficult for graduates in those fields to find jobs. Salaries received by recent graduates do not always meet their expectations (González-Velosa et al., 2015), especially graduates from less selective institutions (Espinoza et al., 2019a, 2019b, 2015; Juliá & González, 2018; Meller & Lara, 2010; Urzúa, 2012). Less selective institutions enroll more students from lower income families, who have attended lower quality secondary schools (Espinoza et al., 2018a). These graduates are more likely to receive salary offers lower than those offered graduates from more selective institutions (Espinoza & Urzúa, 2017).

These contradictions, between supposed high returns for university education and actual employment experience, have prompted higher educational institutions in Chile to look more carefully at their graduates' experience in the labor market. They want to know if their graduates are employed and, if they are, how long they took to find employment and the salary they are paid (Cifuentes et al., 2018; CINDA, 2012; Juliá & González, 2018; Orellana, 2018). In addition, universities have collected data on the level of satisfaction of their graduates with the training and formation received in their professional programs. A high opinion of the quality of a program has been taken as an indication of satisfaction. This 'perceived quality' or Satisfaction is an umbrella concept that refers to the graduate's assessment of social and academic experiences as well as to later outcomes influenced the assessment of other persons. However, most of these institutional studies have lacked methodological rigor and therefore scientific value, and rarely are published. To the author's best knowledge, published studies on the satisfaction of graduates in Chile are scarce; even rarer are those that focus on satisfaction with specific programs.

Prospective students seek to enroll in that university that will maximize their life chances once graduated. Their choice is influenced by the public image of the institution, based principally on the success of previous graduates. The terms 'image', 'prestige' and 'reputation' are used interchangeably in this study, to refer to the general standing of the university (Shenkar & Yuchtman-Yar, 1997). Universities that restrict admission to those applicants most likely to succeed (as known by their previous achievement) are more likely to have successful graduates than those institutions that admit all who apply. Choice of university is also influenced by the public image of the quality of the degree program offered by the institution.

Relatively little research has been published on Chilean university students' satisfaction or their assessment of the quality of their formation (Espinoza & McGinn, 2018c). Even less is known about how graduates, once they are employed, perceive their university formation. More is known about the traditional professions, such as Engineering or Medicine, less about Psychology and Teaching (Caprara et al., 2006; Sears et al., 2017; Soto-Hernández & Díaz, 2018).

This study uses graduates' Satisfaction as a proxy for program quality. For a review of European efforts to assess university quality see Wächter and Kelo (2014). The study

asks if graduates' satisfaction with the results of their university experience in Psychology or in Education is influenced by their current salary, or by the reputation of the university they attended. Answers to this question could help in the design of campaigns to recruit students, and to improve program quality and eventual outcomes.

Review of literature

There is a growing body of studies on the general satisfaction of graduates with their degree programs (e.g. Alhassan et al., 2018; Cabrera et al., 2008; Espinoza et al., 2019b; Glover et al., 2002; Luthra & Flashman, 2017; Candelas et al., 2013; Palominos et al., 2016; Rosales-Jaramillo et al., 2017; Stephens, 2014).

In European universities, the factors that influence perceptions of quality of university programs include context, the field of study, the usefulness of what is learned, as well as characteristics of individual students (García-Aracil, 2009; Mora et al., 2007; Vila et al., 2007). The graduates most satisfied with their programs rated positively course content and non-academic social aspects such as relationships with other students. The determinants of dissatisfaction, on the other hand, were shortage of opportunities to participate in research projects, together with teaching materials and perceived quality of facilities. The level of graduates' satisfaction also was influenced by the length of the program as well as their success when seeking employment. Graduates' willing to repeat the same studies in the same university assign most influence to the perceived quality of the process they experienced (Luque & Doña, 2013).

A study in Qatar found that perceived university reputation and perceived faculty competency were the basis for students' satisfaction (Elsharnouby, 2015). What is claimed to have been the first American study examining satisfaction within Psychology reported that teaching quality and expertise was the strongest defining factor (Green et al., 2015). Researchers in Spain concluded that graduates' satisfaction (as indicated in a positive response to whether the graduate would attend the same university and program if necessary), was shown to be linked most strongly to the quality of the educational process experienced (Luque & Doña, 2013).

A meta-analysis of 83 studies conducted between 1986 and 2016 identified six dimensions or factors that contribute to overall student satisfaction (De Oliveira et al., 2017). These are value of services, resources for students, perceived quality of service, image or identity of the institution, university environment, and a market orientation. It is important to note that their retrospective view of the experience in the university can also depend on the external or public image of the particular profession studied (Alves & Raposo, 2010; Azoury et al., 2014; Helgesen & Nettet, 2007; Jung & Lee, 2016). In Chile, for example, a commercial survey ranked Medicine and Engineering at the highest level of social status, and Psychology and Education in the lower level of university degree programs (MORI, 2015). In the case of graduates of arts careers, Dumford and Miller (2017) found that income received after graduation does not fully explain the satisfaction with the program studied and inferred that disciplinary field was a key factor.

A university's prestige is related to the public's perception of the academic quality of the students admitted to the university, that is, to its selectivity (Kunanusorn & Puttawong, 2015; Schlesinger et al., 2017). In the United States, the academic reputation of a university has been shown to be highly related to its students' secondary school grade point average

and college admission test scores (Conard & Conard, 2004). Admission standards (selectivity) are a signal to employers that graduates are likely to be well qualified (Meller & Lara, 2010; Urzúa, 2012; Weinstein, 2017).

A more recent study used regression analysis to demonstrate the effect of degree program completed and level of a satisfaction with the training received (Espinoza et al., 2019b). The study used a different measure of satisfaction and had a smaller sample. By analyzing satisfaction with work and satisfaction with their university formation in Psychology, researchers concluded that satisfaction is determined principally by the prestige or selectivity of the university that offered that degree program (Espinoza et al., 2018a; Espinoza et al., 2018b). In the same perspective, other studies state that satisfaction with various aspects of the university (e.g. academic resources, student services, perceived quality of service and curriculum) positively predicts the perception of preparation for employment (Bauer, 2015; Cledes et al., 2008; Ghosh et al., 2008; Martin et al., 2000; Mostafa, 2006; Tessema et al., 2012).

Employment (and consequent income) is one of the factors associated with the perceived value of academic formation (Abas & Imam, 2016; De Vries et al., 2013; Teixeira et al., 2015). A study in the United States provided evidence that income is strongly associated with satisfaction with university studies (Gallup-Purdue University, 2015). Pike (1994) found that graduates who had positive experiences with work were more likely to manifest high satisfaction with their study program. Emphasizing the importance of institutional marketing, Trullas and associates argue that students see employability as a joint product of the institution's reputation and promotion of the employability of its graduates (Trullas et al., 2018).

Based on these results, it is possible to infer that students' and graduates' satisfaction is explained by various factors. Among those that stand out are the institution's selectivity, the degree program completed, and the income obtained once employed. Not clear in these studies, however, is the relative importance of these factors, and the extent to which they are interdependent. Thus, it is of interest to establish whether this perception of satisfaction is related exclusively to the university experience or is conditioned by other factors. In some sense, this work is part of the perspective proposed by Doña and Luque (2018) who tested a model that links loyalty to the university with image and satisfaction and asked how these are conditioned by work status and the program studied.

In summary, satisfaction with one's university experience may have several determinants. These include:

- aspects of the degree program itself;
- the prestige of the profession pursued;
- the selectivity of the university in which training was provided, which influences the public image of the institution; and
- the success of the graduate in finding work, in the salary received and in performance on the job.

This study tests a model that links general satisfaction with the prestige of the university, and with income on employment after graduation. The study poses the following hypotheses:

- (1) Graduates who receive higher salaries are more likely to report satisfaction with their university than those who receive lower salaries.

- (2) Controlling on salary, graduates from more selective universities are more likely to report satisfaction with their university than are graduates of less selective universities.
- (3) Salary levels vary more as a function of field of study than university selectivity or satisfaction with university training.

The null version of each of these hypotheses states that there is no relationship between values on the variables considered.

Methods

Participants

Two professional degree programs, Psychology and Teaching, were selected for the study. These programs were chosen because they attract a relatively large number of students, and have received little attention in prior Chilean research. These two programs were in 5th and 11th place for total number of graduates in 2017 (Servicio de Información de Educación Superior, 2019b). In addition, both programs have high completion rates, a high percentage of female graduates, and form part of the Social Sciences.

Three universities which offer these programs located in Santiago, Chile were chosen to represent different levels of selectivity. The university labeled 'highly selective' (HSU) admits only those applicants who have scored 600 or above on the national Test of University Selection (Prueba de Selección Universitaria or PSU) which is based on knowledge of the secondary school curriculum (Pearson, 2013). This test has a mean of 500 and a standard deviation of 111. The university categorized as moderately selective (and referred to as the MSU) requires a minimum score of 475 on the PSU for admission, but students entering the MSU between 2011 and 2013 had average scores of 550. The less selective university (LSU) admits all high school graduates who apply. Two of the universities are private, and less than 50 years old. The third is public and about 150 years old. During the period 2012–2016, the three universities graduated 1242 students in Psychology and in Teaching.

A list was compiled of only those graduates who had attended day-time classes. Participants were selected randomly until there was a sample large enough to ensure a 95 per cent confidence level at significance level of 5 per cent and a margin of error of 3.0 per cent. This procedure was carried out twice, first during September 2015, to select graduates from 2012 to 2014, and again in December 2017 to select graduates from 2015 to 2016. We randomly selected study participants as a percentage of the number of graduates in their field in that year. Those selected were contacted by e-mail inviting their participation. Those who did not accept the invitation were randomly replaced. The obtained sample included 266 graduates from 2012 to 2014, and 321 graduates from 2015 to 2016.

Questionnaire

The survey questionnaire contained 47 questions arranged in three sections: (1) general data (10 items), including questions on gender, birth date and educational level of the mother; (2) employment situation (10 items), covering questions about current employability (working or not, income) but also the respondent's subjective perception of self as a professional (e.g. is s/he successful or not?); and (3) details of the training received (27 items).

Table 1. Items included in the dimension general satisfaction with training received (Likert scale).

If I had the opportunity to study my degree program again, I would choose the institution where I studied.
The training I received in my program was high quality.
When I compare myself with graduate in other degree programs, I realize that employers were more favorable toward us.
The theoretical training that the program gave me was adequate.
The practical training that the program provided me was appropriate.
The personal and value training that the program delivered me was suitable.
The preparation that the program gave me matched the requirements of the labor market.
My program was very demanding.

Source: Authors.

Included in Section 3 were 8 questions concerned with satisfaction with the degree program. In Chile (as in other countries) it is customary to avoid making a negative response if possible. For that reason, the Likert scale items we constructed did not include a 'neutral' option. Research has shown that the reliability and validity of four-point scales is comparable to that of five-point scales (Chang, 1994; Lozano et al., 2008). The response options were Strongly Disagree, Disagree, Agree, Strongly Agree; they were assigned values 1–4. The score on the Satisfaction scale is the average across the 8 items. Missing values were replaced with the group mean. Table 1 presents the items. An exploratory factor analysis yielded one factor. The scale produced by combining the 8 items has a Cronbach's Alpha of 0.9068, a Kayser Meyer Olkin value of 0.913, and a ChiSquare with a $p < 0.001$ using the Bartlett test of sphericity. Four variables were used to test the hypotheses. The first independent variable is Salary, included in the survey as 'Present average monthly income or that received before leaving the job'; response categories were Less than 755 US\$, Between 755 and 1510 US\$, and More than \$1500 US\$. The second independent variable is Selectivity. The dependent variable, Satisfaction, based on the items in Table 1, is described above.

Analysis

The level of satisfaction of graduates from the three universities is compared using Analysis of Variance (ANOVA) (Acock, 2018; Gall et al., 2006; Mitchell, 2015). The large obtained sample meets the requirement of a normal distribution, as explained by the central limit theorem. The results of the Bartlett test ($\chi^2 = 2.653$ and $p = 0.265$) assure that the sample is sufficiently homoscedastic. The random selection of respondents assures the independence of the observation.

Analysis of variance was used to highlight the differential effect of Salary and Selectivity on Satisfaction. The statistic makes it possible to contrast the effects at each level of the independent variable. We used the Tukey Method to assess whether the relationship between Salary and Satisfaction is continuous or discontinuous. Stata IC/15.1 was used for the analysis.

Results

Characteristics of the sample

The overall sample includes more Psychology graduates (60 per cent) than graduates in Teaching (40 per cent). Compared to the other two universities, the HSU has the largest proportion of Psychology graduates (64 per cent). The LSU has the larger proportion of Teaching graduates (47 per cent).

Table 2. Income range by university and degree program (Percentage) (2017).

University	Average Monthly Income	Degree Program	
		Psychology	Teaching in Basic Education
HSU	Less than 755 US\$	18.47	16.67
	Between 755 and 1510 US\$	58.60	79.76
	More than 1510 US\$	22.93	3.57
	Total	100.0	100.0
MSU	Less than 755 US\$	23.74	28.30
	Between 755 and 1510 US\$	63.95	66.04
	More than 1510 US\$	9.30	5.66
	Total	100.0	100.0
LSU	Less than 755 US\$	22.99	43.75
	Between 755 and 1510 US\$	59.77	56.25
	More than 1510 US\$	17.24	0.00
	Total	100.0	100.0
Total	Less than 755 US\$	21.82	29.49
	Between 755 and 1510 US\$	60.30	67.74
	More than 1510 US\$	17.88	2.76
	Total	100.0	100.0

Source: Authors.

Overall and in each university, more of the survey participants are women (76 per cent overall), as women tend to predominate in the two professions studied. Gender is not, however, significantly associated with any of the other variables analyzed.

The great majority (85 per cent of the Psychologists and 90 per cent of the Teachers) stated they were employed at the time of the survey (post-graduation). The highest employment rate in Psychology is for graduates from the HSU (92%), with graduates of the MSU the lowest (78%). In Teaching graduates of the HSU have the highest employment rate but the differences between the three universities are slight. In general, unemployment rate in Chile was at all-time low in 2016 (ECLAC, 2017).

Comparison of monthly salary for graduates in Psychology and Teaching indicates that most fall in the middle category (Table 2). On the other hand, a higher proportion (78.2 per cent) of Psychology graduates earn 755 US\$ or more per month, while 70.5 per cent of Teachers earn 755 US\$ or above. These results are consistent with national average salaries using data from the Ministry of Education (2019). Adding the frequencies in the middle and upper ranges it can be seen that highest salaries for Psychologists during the period 2014–2017 were received by graduates from the HSU (81.5 per cent), followed by the MSU and LSU graduates (73.3 per cent and 77.0 per cent, respectively). In the case of Teachers, the most highly paid are graduates from the HSU (83.3 per cent) followed by graduates of the MSU (71.7 per cent) and the LSU (56.3 per cent) (Table 2).

Satisfaction with the university experience

The relationship between Satisfaction and other variables can be tested using ANOVA and the following model.

$$X_{ij} = \mu + \tau_j + \varepsilon_{ij} \text{ where } \tau_j = (\mu_j - \mu)$$

X_{ij} represents the score of each respondent i in condition j . μ is the average score of all respondents in the sample, and μ_j is the average score of all respondents in the sample in condition j . τ_j is the degree to which the average of each respondent in condition j

Table 3. Relationship between satisfaction and selectivity.

Level of selectivity	Satisfaction
Low	2.915
Medium	3.099
High	3.166

Source: Authors.

Table 4. One-factor ANOVA. Dependent variable satisfaction/independent variable selectivity.

	Sum of Squares	Df	Quadratic mean	F	Sig.
Model	6.746	2	3.373	10.91	0.001*
Residual	180.164	583	0.309		
Total	186.910	585	0.320		

*Statistically significant. Source: Authors.

varies from the general mean. Finally, ε_{ij} is the deviation of each respondent from the average of their group ($\varepsilon_{ij} = X_{ij} - \mu_j$).

In ANOVA each factor and their interaction have a null hypothesis. The null hypothesis states that for each level (category) of the variable, means are equal. The information in [Table 4](#) makes it possible to test the hypotheses.

Combining the two sets of graduates, Psychology and Teaching, ratings of Satisfaction are highest for HSU students and lowest among graduates of the LSU. A first step was to examine the relationship between Satisfaction and Selectivity. The data in [Table 3](#) indicate that satisfaction is higher among graduates of more selective universities. Are these differences significant? A one-factor ANOVA is used to make that determination.

The analysis indicates that there are significant differences across levels of Selectivity, which makes it possible to reject the null hypothesis. The critical level associated with the F statistic (Sig. = 0.001 < 0.05) tell us that the model explains a significant part of the observed variation in the dependent variable Satisfaction.

The Tukey analysis, which contrasts means at various levels, indicates that the difference in means of the high and low selectivity groups is significant as is the difference between the middle and low selectivity groups. On the other hand, the difference between the middle and high selectivity groups is not significant (see [Table 5](#)).

Given this finding, the question is: Is Salary significantly related to Satisfaction? If so, does the relationship hold for each level of selectivity? Applying the ANOVA model again produces the results shown in [Table 6](#).

How significant is the effect of the independent variable Salary on Satisfaction? [Table 6](#) demonstrates the results of one-factor ANOVA for these variables applied to the whole sample. As the significant level (0.001) is less than 0.005, the null hypothesis of equal means is rejected, and it is concluded that the different groups defined by the variable Salary do not share the same degree of Satisfaction.

Table 5. Multiple comparisons. Tukey Procedure (Dependent variable satisfaction/ independent variable selectivity).

Comparisons by Level of Selectivity	Mean Differences	Std. Err.	t	p> t	95% Conf. Interval
Medium versus low	.1841883	.0609931	3.02	0.007	0.0409 0.3275
High versus low	.2508464	.054339	4.62	0.001	0.1231 0.3785
High versus medium	.066658	.0567454	1.17	0.469	-0.0667 0.1000

Source: Authors.

Table 6. One-Factor ANOVA. Dependent variable satisfaction/independent variable income.

	Sum of Squares	Df	Quadratic mean	F	Sig.
Model	4.577	2	2.289	7.44	0.001*
Residual	167.082	543	0.308		
Total	171.659	545			

*Statistically significant. Source: Authors.

Table 7. Multiple comparisons. Tukey Procedure (dependent variable satisfaction/ independent variable income).

Income	Mean difference (I-J)	Typical error	Sig.	95 % Confidence level	
				Lower limit	Upper limit
Between 755 and 1510 US\$ vs Less than 755 US\$	0.214	0.056	0.001	0.082	0.346
More than 1510 US\$ vs Less than 755 US\$	0.106	0.084	0.417	-0.091	0.302
More than 1510 US\$ vs Between 755 and 1510 US\$	-0.108	0.075	0.322	-0.284	0.068

Source: Authors.

Although for the whole group there is a relationship between Satisfaction and, Income, it may be that this relationship holds for only part of the distribution of the two variables. For example, it may be that the importance of Income for Satisfaction levels off at higher levels of income. We examined this possibility using the Tukey procedure, which compares differences in Satisfaction at different levels of Income. The data provided in Table 7 show that there is a significant difference (0.001) in terms of Satisfaction only between the graduates in the Low Income category (Less than 755 US\$) and those whose average pay is in the middle category (\$750 to \$1510) (Sig. = 0.001 < .05). Those in the middle level of Income have higher levels of Satisfaction. The difference between those who have an income under 755 US\$ and those who earn more than 1510 US\$ is not significant.

Now the question is whether the impact of Salary on Satisfaction – shown to hold for the entire sample – is found within each of the universities included in this study. In other words, do graduates of a given university tend to view their training more favorably if they receive more income from their employment? Table 8 shows the results of a one-factor ANOVA that includes Satisfaction as the dependent variable, and Income, segmented by universities (or levels of Selectivity). The data show that the effect of Income on Satisfaction is significant only for graduates from the LSU (Sig. = 0.008 < .05). There is a

Table 8. One-factor ANOVA. Dependent variable satisfaction/independent variables income and university.

		Sum of Squares	Degrees of Freedom	Quadratic mean	F	Sig.
HSU	Between groups	0.421	2	0.211	0.91	0.404
	Within groups	54.919	237	0.232		
	Total	55.340	239	0.232		
MSU	Between groups	0.602	2	0.301	0.88	0.416
	Within groups	46.384	136	0.341		
	Total	46.987	138	0.340		
LSU	Between groups	3.614	2	1.807	4.98	0.008*
	Within groups	59.4634	164	0.362		
	Total	63.0778	166	0.380		

*Statistically significant. Source: Authors.

Table 9. Two-way ANOVA. Dependent variable satisfaction/independents variables income and selectivity.

	Sum of Squares	df	Quadratic mean	F	Sig.
Model	1692.2235	13	130.17104	4.48	0.001 *
Income	613.94844	4	153.48711	5.28	0.001*
Selectivity	482.70448	2	241.35224	8.30	0.001*
Income#selectivity	242.45369	7	34.636242	1.19	0.3060
Residual	12,642.209	435	29.062548		
Total	14,334.432	448	31.9965		

*Statistically significant. Source: Authors.

tendency to be more positive in ratings of Satisfaction among the MSU and HSU graduates, but the differences are not statistically significant.

Finally, we wanted to see if the graduates' level of satisfaction is related to the interaction between Salary and Selectivity. We constructed an interaction variable by multiplying Salary by Selectivity. We then computed a two-way ANOVA which permits estimating the influence of both single variables and the interaction term on Satisfaction. Table 9 shows the results. The relationship between the interaction term and Satisfaction is not statistically significant ($F(7,435) = 1.19$ $p > 0.05$). The relationship with the individual variables is as reported above.

Discussion

From the socio-economic point of view, the groups of graduates are relatively homogeneous. The great majority of the graduates are employed, with graduates of the HSU enjoying the highest employment rate (Espinoza et al., 2019a; Meller & Lara, 2010; Urzúa, 2012). The high employment rate of Teaching graduates from the LSU is also notable. This could be attributed to the match between the social origins of these teachers and the location of the schools in which they teach (Espinoza et al., 2018a; Puga et al., 2015). Most of the graduates received incomes in the middle range. The highest incomes are received by graduates in Psychology from the HSU. In general, Psychologists received higher incomes than do Teachers; Psychologists in private pay had the highest incomes. This is consistent with the results of studies in other contexts (Juliá & González, 2018; Jung & Lee, 2016).

A significant number of LSU graduates held low levels of satisfaction with their degree program. Research in other countries has suggested that graduates' salaries are an important contributor to their satisfaction (Doña & Luque, 2018; Dumford & Miller, 2017; Gallup – Purdue University, 2015). There was a positive relationship between salaries and satisfaction only among LSU graduates. Their levels of Satisfaction varied directly with the salaries they received; most received lower salaries and also had less satisfaction with their program.

Among graduates of the MSU and LSU on the other hand, there is no relationship between satisfaction with the program and salaries received. We speculate that for some of the MSU and LSU graduates, institutional reputation or image, based in part on selectivity, may moderate the effect of post-graduation salary on judgments of satisfaction, especially in the two fields studied. The MSU and HSU emphasize preparation for public service over self-aggrandizement. Perhaps some of their students enter these programs not to earn large salaries but to contribute to society. Receiving a larger salary than expected does not, therefore, affect these graduates' post hoc satisfaction with their training.

This study, by comparing the determinants of satisfaction with two distinct degree programs, makes clearer the importance of institutional selectivity and its covariate prestige or public image.

Implications

Graduates' satisfaction with the results of their degree program varies from one university to another. This variation occurs not only because there are differences between characteristics of the universities, but also because there are differences between the backgrounds of students in those universities. These differences in student backgrounds are related to their expectations with respect to future income. As noted above (González-Velosa et al., 2015) salaries for recent graduates have been lower than expected. A future study could explore whether the public image or reputation of the university held by applicants shapes their expectations of future income with respect to what they experience in their higher education training.

This study may be of interest especially to those higher education institutions seeking to improve their general reputation, or that of degree programs in less prestigious professions such as Psychology and Teaching. The university's public image, and therefore its ability to attract applicants, certainly can be improved by raising the quality of its programs. Public understanding of that quality, however, is influenced by the salaries received by its graduates. If employers' starting salaries are conditioned by a university's image, it may be effective to raise admission standards. Over time, this could have two effects. It might change the public's opinion about the institution's quality. Over time, admission of more qualified students could result in higher salaries on graduation.

The expansion of higher education has led to much greater diversity in the university student population. Once described as elite, university attendance has become a mass phenomenon in most countries, and in a few is described as universal (Trow, 1972). As a consequence, universities now must provide a broader, more complex variety of experiences to those who attend. The attraction of applicants, and the retention of students once enrolled, requires greater differentiation in recruitment strategies, more careful distinction between the 'right' and the 'wrong' applicants (Harrison-Walker, 2010).

Limitations of this study

In this study, the prestige of the degree program *per se* had no apparent effect on satisfaction. We suspect that in practice degree programs vary significantly in their attractiveness to prospective students. The inclusion of graduates in other fields might well have produced different results, as Teaching is a relatively low status profession in Chile, and psychology is relatively new and not well-known in the public. Most graduates in psychology are employed in the public sector, which provides less visibility and opportunities for distinction.

The sample used in this study, graduates of two degree programs in three universities, is too small to support any generalizations. Funding did not permit a larger sample, nor the collection of more information about the institutions. The conclusions to be drawn from this study may, therefore, have limited generalizability to other degree programs

and other universities, in Chile as well as in other countries. The sample of graduates was relatively small and includes graduates only from 2012 to 2016. The results should be taken carefully, given the relatively small sample size. Care should be taken in generalization to other degree programs, and to other universities, as well as across countries.

Conclusions

While these are preliminary results, they can shed some light on criteria used by different graduates in evaluation of their degree training in the university. The present study shows that graduates of the low selectivity university (LSU) gave more importance to practical considerations – in this case, income – when assessing their training.

The full explanation of this finding will require additional analysis. One potential explanation has to do with the profile of the students included in this study. Given these higher visibility and fame in Chile, the MSU and HSU attract students who are more critical of their training.

Satisfaction is produced by outcomes that exceed expectations. In an era of education for all, students entering universities differ widely in both their knowledge of what universities are like, and in their personal educational histories. The purpose of selectivity of admission is to reduce the heterogeneity of entering students. This in turn facilitates instruction and curriculum coverage, but it can have the effect of reducing diversity and innovation among graduates.

Universities, and degree programs, that recognize the wide range of talent of incoming students can provide training that expands the range of talents developed, as well as raising their level. Over time, the university's prestige, and therefore its attractiveness to future generations of students, will be enhanced by the range of creative innovations of their graduates. Emphasis on student satisfaction in degree programs is the long-term strategy for insuring a steady flow of new students, but quality has to be understood not as excellence in teaching what is known, but instead enabling students and graduates to produce new knowledge. Prestige depends on a number of factors, such as the age of the institution, the public success of its graduates in society, and its ability to hire renowned teachers and researchers. These factors form a positive feedback system, in which admission of capable students results in graduates who have no difficulty finding employment, and who perform well in society increasing the prestige of the institution and raising demand among potential future students.

This study confirms the importance of efforts by universities to improve their contacts with future employers. The objective is not to minimize the broad educational goals of higher education, nor to suggest that universities become training schools or employment agencies. Rather, the return to increased collaboration between universities and employers can be both advances in the production of knowledge, and in the application of that knowledge in society.

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References

- Abas, M., & Imam, O. (2016). Graduates' Competence on employability skills and Job performance. *International Journal of Evaluation and Research in Education*, 5(2), 119–125.
- Acock, A. C. (2018). *A gentle introduction to stata*. Texas, United States of America: Stata Press.
- Alhassan, I., Sowley, E., Yakubu, R., & Kassim, B. (2018). Analysis of graduate satisfaction and experience with higher education services in a Ghanaian university. *The European Journal of Educational Sciences*, 5(4), 14–27. <https://doi.org/10.19044/ejes.v5no4a2>
- Alves, H., & Raposo, M. (2010). The influence of university image on student behavior. *International Journal of Educational Management*, 24(1), 73–85. <https://doi.org/10.1108/09513541011013060>
- Améstica, L., Llinas-Audet, X., & Sánchez, I. (2014). Retorno de la Educación Superior en Chile. Efecto en la Movilidad social a Través del Estimador de Diferencias en Diferencias. *Formación Universitaria*, 7(3), 23–32. <https://doi.org/10.4067/S0718-50062014000300004>
- 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. <https://doi.org/10.1016/j.ism.2014.07.001>
- Bauer, K. (2015). *Measuring student satisfaction in the Andrews university school of Business*. Andrews University Digital Commons. <https://digitalcommons.andrews.edu/cgi/viewcontent.cgi?referer=https://scholar.google.cl/&httpsredir=1&article=1103&context=honors>
- Cabrera, A., de Vries, W., & Anderson, S. (2008). Job satisfaction among Mexican alumni: A case of incongruence between hunch-based policies and labor market demands. *Higher Education*, 56(6), 699–722. <https://doi.org/10.1007/s10734-008-9119-3>
- Canales, A., & De Los Ríos, D. (2007). Factores Explicativos de la Deserción Universitaria. *Calidad en la Educación*, 30, 50–83. <https://doi.org/10.31619/caledu.n26.239>
- Candelas, C., Gurruchaga, M., Mejías, A., & Flores, L. (2013). Medición De La Satisfacción Estudiantil Universitaria: Un Estudio de Caso en una Institución Mexicana. *Iberoamerican Journal of Industrial Engineering*, 9(5), 261–274. Retrieved from: incubadora.periodicos.ufsc.br/index.php/IJIE/article/view/2595
- Caprara, G., Barbaranelli, C., Steca, P., & Malone, P. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology*, 44(6), 473–490. <https://doi.org/10.1016/j.jsp.2006.09.001>
- Chang, L. (1994). A psychometric evaluation of 4-point and 6-point Likert-type scale in relation to reliability and validity. *Applied Psychological Measurement*, 18(3), 205–215. <https://doi.org/10.1177/014662169401800302>

- Cifuentes, G., Villarroel, M., & Geeregat, O. (2018). Influye la universidad en la empleabilidad exitosa de los titulados de pedagogía? *Estudios Pedagógicos (Valdivia)*, 44(1), 207–224. <https://doi.org/10.4067/S0718-07052018000100207>
- CINDA. (2012). *Seguimiento de Egresados e Inserción Laboral: Experiencias Universitarias*. Santiago, Chile: CINDA.
- Clemes, M., Gan, C., & Kao, T.-H. (2008). University student satisfaction: An Empirical analysis. *Journal of Marketing for Higher Education*, 17(2), 292–325. <https://doi.org/10.1080/08841240801912831>
- Conard, M., & Conard, M. (2004). Factors that predict academic reputation don't always predict desire to attend. *Journal of Marketing for Higher Education*, 11(4), 1–18. https://doi.org/10.1300/J050v11n04_01
- De Oliveira, F., Junior, W., Hoffman, C., & Da Silva, G. (2017). Student satisfaction in higher education: A meta-analytic study. *Journal of Marketing for Higher Education*, 27(1), 1–18. <https://doi.org/10.1080/08841241.2017.1311980>
- De Vries, W., Vázquez-Cabrera, R., & Rios-Treto, D. (2013). Millonarios o malparados: de qué depende el éxito de los egresados universitarios? *Revista Iberoamericana de Educación Superior*, 9(4), 3–20. <https://doi.org/10.22201/iisue.20072872e.2013.9.80>
- Doña, L., & Luque, T. (2018). How loyal can a graduate ever be? The influence of motivation and employment on student loyalty. *Studies in Higher Education*. <https://doi.org/10.1080/03075079.2018.1532987>
- Dumford, A., & Miller, A. (2017). Assessing alumni success: Income is not the only outcome!. *Assessment & Evaluation in Higher Education*, 42(2), 195–207. <https://doi.org/10.1080/02602938.2015.1098587>
- ECLAC. (2017). *Economic survey of Latin America and the Caribbean*. Santiago, Chile: Economic Commission for Latin America and the Caribbean.
- Elsharnouby, T. (2015). Student co-creation behavior in higher education: The role of satisfaction with the university experience. *Journal of Marketing for Higher Education*, 25(2), 238–262. <https://doi.org/10.1080/08841241.2015.1059919>
- Espinoza, Ó, & González, L. E. (2015). Equidad en el Sistema de Educación Superior en Chile: Acceso, Permanencia, Desempeño y Resultados. In A. Bernasconi (Ed.), *Educación Superior en Chile: Transformación, Desarrollo y Crisis* (pp. 517–580). Santiago, Chile: Ediciones de la Universidad Católica de Chile.
- Espinoza, Ó, González, L. E., & Loyola, J. (2018b). Evaluación de la satisfacción de titulados de la carrera de psicología en Chile. *Innovación Educativa*, 18(76), 171–192. Retrieved from scielo.org.mx/scielo.php?script=sci_arttext&pid=S1665-26732018000100171
- Espinoza, Ó, González, L. E., McGinn, N., Castillo, D., & Sandoval, L. (2019a). Factors that affect post-graduation satisfaction of Chilean university students. *Studies in Higher Education*, 44(6), 1023–1038. <https://doi.org/10.1080/03075079.2017.1407306>
- Espinoza, O., González, L. E., McGinn, N., Castillo, D., & Sandoval, L. (2018a). Family Background, secondary school and university Elitism: Contributors to income Inequality in Chile. *Issues in Educational Research*, 28(4), 918–939. Retrieved from: <https://www.iier.org.au/iier28/espinoza.pdf>
- Espinoza, Ó, & McGinn, N. (2018c). Graduates' satisfaction as a measure Of quality: Evidence from Two programs in three Chilean universities. *International Journal of Educational Research*, 90, 133–143. <https://doi.org/10.1016/j.ijer.2018.05.009>
- Espinoza, Ó, McGinn, N., González, L. E., Sandoval, L., & Castillo, D. (2019b). Education and employment in two Chilean undergraduate programs. *Education + Training*, 61(3), 326–341. <https://doi.org/10.1108/ET-06-2018-0131>
- Espinoza, R., & Urzúa, S. (2017). *The economic returns to higher education: Funding, coverage and quality in Latin America*. https://econweb.umd.edu/~espinoza/espinoza_urzua_2017.pdf
- Gall, M., Gall, J., & Borg, W. (2006). *Educational research: An introduction* (8th ed.). New York: Pearson.
- Gallup – Purdue University. (2015). *Gallup-Purdue Index 2015 report*. Gallup – Purdue University. Indiana: West Lafayette.
- García-Aracil, A. (2009). European graduates' level of satisfaction with higher education. *Higher Education*, 57(1), 1–21. <https://doi.org/10.1007/s10734-008-9121-9>

- Ghosh, A., Javalgi, R., & Whipple, T. (2008). Service strategies for higher educational institutions based on student segmentation. *Journal of Marketing for Higher Education*, 17(2), 238–255. <https://doi.org/10.1080/08841240801912641>
- Glover, D., Law, S., & Youngman, A. (2002). Graduateness and employability: Student perceptions of the personal outcomes of university education. *Research in Post-Compulsory Education*, 7(3), 293–306. <https://doi.org/10.1080/13596740200200132>
- González-Velosa, C., Rucci, G., Sarzosa, M., & Urzúa, S. (2015). *Returns to higher education in Chile and Colombia*. IDB Working Paper Series (Vol. 587). Washington, DC. <https://www.iadb.org>
- Green, H., Hood, M., & Neumann, D. (2015). Predictors of student satisfaction with university psychology courses: A review. *Psychology Learning and Teaching*, 14(2), 131–146. <https://doi.org/10.1177/1475725715590959>
- Harrison-Walker, L. (2010). Customer prioritization in higher education: Targeting ‘right’ students for long-term profitability. *Journal of Marketing for Higher Education*, 20(2), 191–208. <https://doi.org/10.1080/08841241.2010.526355>
- Helgesen, O., & Nettet, E. (2007). Images, satisfaction and antecedents: Drivers of student loyalty? A case study of a Norwegian university college. *Corporate Reputation Review*, 10(1), 38–59. <https://doi.org/10.1057/palgrave.crr.1550037>
- Instituto Nacional de Estadísticas. (2018). *Encuesta Suplementaria de Ingresos*. INE.
- Juliá, M., & González, M. (2018). Trayectorias de Egresados de los Programas de la Red de Psicología del Consorcio de Universidades del Estado de Chile. *Cuadernos de Investigación*, 10. Santiago: Comisión Nacional de Acreditación. Retrieved from: investigacion.cnachile.cl/archivos/cna/documentos/10.pdf
- Jung, J., & Lee, S. (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. <https://doi.org/10.1080/1360080X.2016.1174408>
- Kunanusorn, A., & Puttawong, D. (2015). The mediating effects of satisfaction on student loyalty to higher education institutions. *European Scientific Journal (Special Edition)*, 1, 449–463. Retrieved from: <https://ejournal.org/index.php/esj/article/view/6455>
- Lozano, L., García-Cueto, E., & Muñiz, J. (2008). Effect of the number of response categories on the reliability and validity of rating scales. *Methodology*, 4(2), 73–79. <https://doi.org/10.1027/1614-2241.4.2.73>
- Luque, T., & Doña, L. (2013). What do graduates think? An analysis of intention to repeat the same studies and university. *Journal of Marketing for Higher Education*, 23(1), 62–89. <https://doi.org/10.1080/08841241.2013.812589>
- Luthra, R., & Flashman, J. (2017). Who Benefits most from a university degree? A Cross-national Comparison of selection and Wage returns in the US, UK, and Germany. *Research in Higher Education*, 58(8), 843–878. <https://doi.org/10.1007/s11162-017-9451-5>
- Ma, J., Pender, M., & Welch, M. (2016). *Education Pays 2016. The Benefits of higher education for Individuals and society*. The College Board. Retrieved from: <https://trends.collegeboard.org/sites/default/files/education-pays-2016-full-report.pdf>
- Martin, A., Milne-Home, J., Barrett, J., Spalding, E., & Jones, G. (2000). Graduate satisfaction with university and perceived employment preparation. *Journal of Education and Work*, 13(2), 199–213. <https://doi.org/10.1080/713676986>
- Meller, P., & Lara, B. (2010). *Carreras universitarias: Rentabilidad, Selectividad y Discriminación*. Santiago, Chile: Editorial Uqbar.
- Ministry of Education. (2019). Estadísticas por Carrera. Retrieved from: mifuturo.cl/buscador-de-estadisticas-por-carrera/
- Mitchell, M. (2015). *Stata for the Behavioral sciences*. Texas, United States of America: Stata Press.
- Mizala, A., & Lara, B. (2015). Asistir a la educación superior, ¿tiene algún efecto sobre la empleabilidad e ingresos de los graduados? In *AEQUALIS (Comp.), Acceso y permanencia en la educación superior: Sin apoyo no hay oportunidad* (pp. 97–113). Santiago, Chile: AEQUALIS.
- Mora, J., García-Aracil, A., & Vila, L. (2007). Job satisfaction among young European higher education graduates. *Higher Education*, 53(1), 29–59. <https://doi.org/10.1007/s10734-005-2377-4>

- MORI. (2015). *Barómetro de la Educación Superior 2014: Novena Medición*. Santiago, Chile: MORI Market Opinion.
- Mostafa, M. (2006). A Comparison of SERVQUAL and I-P analysis: Measuring and Improving service quality in Egyptian private universities. *Journal of Marketing for Higher Education*, 16(2), 83–104. https://doi.org/10.1300/J050v16n02_04
- Orellana, N. (2018). Consideraciones sobre Empleabilidad en Educación Superior. *Calidad en la Educación*, 48(48), 273–291. <https://doi.org/10.31619/caledu.n48.477>
- Palominos, P., Quezada, L., Osorio, C., Torres, J., & Lippi, L. (2016). Calidad de los servicios educativos según los estudiantes de universidad una pública en Chile. *Revista Iberoamericana de Educación Superior*, 7(18), 130–142. <https://doi.org/10.22201/iissue.20072872e.2016.18.180>
- Pearson. (2013). *Final report evaluation of the Chile PSU 22 January 2013*. London. https://portales.mineduc.cl/usuarios/mineduc/doc/201301311057540.Chile_PSU-Finalreport.pdf
- Pike, G. (1994). The relationship between alumni satisfaction and work experiences. *Research in Higher Education*, 35(1), 105–123. <https://doi.org/10.1007/BF02496664>
- Psacharopoulos, G., & Patrinos, H. (2018). Returns to investment in education: A decennial review of the global literature. *Education Economics*, 26(5), 445–458. <https://doi.org/10.1080/09645292.2018.1484426>
- Puga, I., Polanco, D., & Corvalán, D. (2015). Segregación de la formación y docente y su rol en la reproducción social de la desigualdad. *Calidad en la Educación*, 43, 57–102. <https://doi.org/10.31619/caledu.n43.44>
- Rosales-Jaramillo, G., Rodal-Genovez, A., Chumbi-Toledo, V., & Buñay-Andrade, R. (2017). Análisis de la satisfacción laboral y desempeño académico profesional del estudiantado graduado en Psicología de la Universidad de Cuenca, Ecuador. *Revista Electrónica Educare*, 21(3). <https://doi.org/10.15359/ree.21-3.13>
- Schlesinger, W., Cervera, A., & Perez-Cabañero, C. (2017). Sticking with your university: The importance of satisfaction, trust, image and shared values. *Studies in Higher Education*, 42(12), 2178–2194. <https://doi.org/10.1080/03075079.2015.1136613>
- Sears, C., Boyce, M., & Boon, S. (2017). Predictors of students satisfaction in a large Psychology undergraduate program. *Canadian Psychology/Psychologie Canadienne*, 58(2), 148–160. <https://doi.org/10.1037/cap0000082>
- Servicio de Información de Educación Superior. (2019a). *Base de Datos de Matriculados*. <https://www.mifuturo.cl/index.php/bases-de-datos/matriculados>
- Servicio de Información de Educación Superior. (2019b). *Base de Datos Titulados*. <https://www.mifuturo.cl/index.php/bases-de-datos/titulados>
- Shenkar, O., & Yuchtman-Yar, E. (1997). Reputation, image, prestige, and Goodwill: An Interdisciplinary Approach to Organizational standing. *Human Relations*, 50, 1361–1381. <https://doi.org/10.1023/A:1016907228621>
- Soto-Hernández, V., & Díaz, C. (2018). Formación inicial docente en una universidad chilena: Percepciones de sus egresados. *Praxis & Saber*, 9(20), 191–216. <https://doi.org/10.19053/22160159.v9.n20.2018.8429>
- Stephens, P. (2014). *Undergraduate student satisfaction: Investigating the Measurement, Dimensionality, and Nature of the Construct using the Rasch model* [Unpublished doctoral dissertation]. University of Kentucky. https://uknowledge.uky.edu/cgi/viewcontent.cgi?article=1026&context=epe_etds
- Teixeira, S., Matos da Silva, J., & Oom do Valle, P. (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. <https://doi.org/10.1016/j.jhlste.2014.07.002>
- Tessema, M., Ready, K., & Yu, W.-C. (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. Retrieved from: ijhssnet.com/journals/Vol_2_No_2_Special_Issue_January_2012/5.pdf
- Trow, M. (1972). The expansion and transformation of higher education. *International Review of Education*, 18(1), 61–84. <https://doi.org/10.1007/BF01450272>

- Trullas, I., Simo, P., Fusalba, O. R., Fito, A., & Sallan, J. (2018). Student-perceived organizational support and perceived employability in the marketing of higher education. *Journal of Marketing for Higher Education, 28*(2), 266–281. <https://doi.org/10.1080/08841241.2018.1488334>
- Urzúa, S. (2012). La Rentabilidad de la Educación Superior en Chile? Educación Superior Para Todos?, Centro de Estudios Públicos, Documento de Trabajo 386. Santiago: Centro de Estudios Públicos.
- Vila, L., Garcia-Aracil, A., & Mora, J. (2007). The distribution of Job satisfaction among Young European graduates : does the choice of study field Matter? *The Journal of Higher Education, 78*(1), 97–118. <https://doi.org/10.1353/jhe.2007.0006>
- Wächter, B., & Kelo, M. (2014). *University quality indicators: A critical assessment*. Brussels. https://www.europarl.europa.eu/RegData/etudes/STUD/2015/563377/IPOL_STU%282015%29563377_EN.pdf
- Webber, D. (2015). Are College Costs Worth it? How Individual Ability, Major Choice, and Debt Affect Optimal Schooling Decisions. IZA Discussion Paper N° 8767. Bonn, Germany: IZA Institute of Labor Economics. <https://ssrn.com/abstract=2554915>
- Weinstein, R. (2017). *University selectivity, Initial Job quality, and Longer-Run salary*. IZA DP N°. 10911. Bonn, Germany: IZA Institute of Labor Economics. <https://ftp.iza.org/dp10911.pdf>