JOB MATCHING IN RECENT GRADUATES: HOW TO ACHIEVE QUALITY EMPLOYMENT

Burriel, R., Beas, M.I.
Àrea d'Inserció Professional, Universitat Jaume I
Castelló de la Plana / Spain
Raul.Burriel@sg.uji.es, Maribel.Beas@sg.uji.es

Abstract

Job matching is an important concept related to the quality of the employment: It implies a fit between education and employment and it involves making use of the skills acquired during higher education courses. In a previous article we studied the difference in the level of generic workplace competencies between two groups of graduates, those who develop jobs matching their level of education (job-matched) and those who do not, as well as studying the relationship between this match and other variables prior to job finding. As a further step in exploring the relationship involving job matching between higher education and the workplace, this study aims to explore the relationship between such job matching and the education-to-work transition, as well as the characteristics of current employment.

The study was conducted on a sample of 552 graduates from Universitat Jaume I in Castelló who finished their degrees in 2001, 2002 and 2003 (3, 4 and 5 years in the job market) and who were working at the time of the study. 59.7% were women (average age 29).

We studied differences between the job-matched group and non-matched group in terms of key variables related to employability (such as job search techniques, self-efficacy, time taken to find their first job and time taken to find their current job) and variables that characterize the current job (percentage of full-time work, self-employment, level of responsibility in the workplace, employment mobility and so on).

The results show significant differences in the way job-matched and non-matched graduates tackle the job-search process. They also show that job-matched graduates enjoy higher quality jobs: they earn more money, are more satisfied with their jobs and they carry out their duties in different specific departments. We also find personal implications, such as the higher percentage of job-matched graduates who enjoy financial independence from their parents.

Keywords - job matching, education-to-work transition, job- search, quality jobs.

1. INTRODUCTION

Since 2003, the Universitat Jaume I (UJI) Occupational Observatory (OO), forming part of the Career Development Section (AIP) of the Office for International and Educational Cooperation (OCIE), has been carrying out various studies monitoring the occupational integration of graduates from this university, among other types of study. The OO's main aims are to compile, generate and publicize relevant information about the occupational integration process of UJI graduates. As part of the OCIE, the OO is responsible to the Vicerectorate for Students and Employment (VEO). The AIP's aim is to incorporate added value into students' education, increasing their employability and preparing them to work in international environments. It is the UJI's main tool for developing employment policies directed towards student employability.

Knowing about students' routes to occupational integration should serve not only for compiling a series of indicators about job finding or employment quality standards, but also for a full understanding of the process that leads to quality integration.

In these occupational integration monitoring studies with university leavers, it is important to focus on groups of graduates who have been in the job market for at least 2-3 years. In this way, occupational integration can be studied in professionals with a degree of experience of the job market, at the stage when they are stabilizing their professional career and getting away from the precarious employment of the period immediately following the end of their courses.

Meanwhile, the literature on occupational integration studies includes various employment quality indicators: objective ones such as level of remuneration or professional category, and other more subjective ones such as job satisfaction [1]. Among the measurements of employment quality is job matching, or the fit between educational level and the post occupied. Traditionally this has been the main concern when it comes to university graduates finding jobs – what is known as "over-qualification" [2]. In addition, this matching is translated into the fit between the competences developed during studies with those demanded by employers. Consequently, matching can be understood as an indicator both of the quality of the job found and the quality of university education.

In a previous study [3], we looked at the relationship between matching and socio-demographic variables prior to occupational integration, such as: sex, parents' educational standards, home circumstances, branch of studies, job-search techniques, international mobility and additional training. We found that the branch of studies, stays abroad, additional education and job-search strategies had a positive effect on subsequent matching.

The aim of this article is to study the variables from the results configuring quality jobs for graduates from our university, looking at the difference between those who develop a matching job and those who do not.

2. METHODOLOGY

2.1 Participants and procedure

The data for this study have been drawn from the Occupational Integration Survey regularly carried out by the OO [4]. This survey was carried out on a population of 4320 graduates from 24 degree courses, graduating in 2001, 2002 and 2003 [5]. The field work took place from May to December 2006, and a sample of 634 valid responses was finally collected.

2.2 Variables

A. Matching

This variable has been constructed based on the employment level given by the graduate [3]. The options management, middle management, higher grade specialist and middle grade specialist have been categorized as matching, while administrative worker, operative and others have been considered non-matching. A dichotomic variable has therefore been constructed.

B. Socio-demographic variables

These variables – sex and age – are always taken into account, but differences often appear on matters concerning occupational integration and the job market, such as salary. In this case, the variable "home circumstances" is also included, taking into account whether the person answering the survey has moved out of the parental home and reflecting different options: 1) living with parents; 2) as a couple, without children; 3) as a couple, with children; 4) sharing accommodation with other adults; 5) alone; and finally, 6) other situations.

C. Successful job-search techniques for finding the current job

Choosing the appropriate job-search technique (JST) is decisive for developing a professional career. A list of JSTs was used, on which the graduate had to mark the most successful one they had developed, when it came to finding a job, by the time of the survey. These JSTs were fitted into 5

categories [6]: 1) On-spec application (“Contacting businesses on my own account”); 2) Family/acquaintances (“Using personal contacts”); 3) TEC (“Using a temporary employment company”); 4) Public offers (“Answering job advertisements”); and 5) Active registration (“Using a public employment agency”).

D. Mobility

Some indicators in the Spanish job market show that mobility favours job finding [7], and the fact is that the best educated workers are precisely those showing greatest mobility [8]. This variable indicates whether those surveyed have changed their province of residence between their studies and the time the survey was carried out.

E. Type of contract

The type of contract held by the person surveyed in their current job has been coded in four categories: 1) Self-employed, 2) Indefinite, 3) Temporary and 4) Other types.

F. Working day

The variable "working day" can take four values: 1) Full-time, 2) Part-time, 3) Shift work and 4) Other types.

G. Tasks with responsibility

This variable is intended to show whether the person surveyed takes on tasks with responsibility in the job they do.

H. Gross annual salary

Average gross annual salary is included in this variable.

I. Company's economic activity

The classification of economic activities used in the OO's 2003 [9] and 2006 [5] studies is used, as shown below (Table 1).

Business services	Finance
Public	Construction
Private education	Insurance
Ceramics	Automotive
IT services	Paper, graphics, publishing, copying
Metallurgy and electrical	Food
Tourism	Transport
Other social activities	Textiles, garments
Timber	Energy
Chemicals, plastics, glass, packaging	Others
Agriculture, stock farming, hunting, fishing, forestry	

Table 1. Economic activities

J. Operational area of the company

According to the OO's experience of previous studies [5], the operational areas of a company are divided into 13 different categories, shown in the following table (Table 2).

Sales and marketing	General management
Production	Training/teaching
General services	R+D/Research
Administration and finance	Health
Information technology	There are no differentiated operational
Human resources	areas at the company
Customer care	Others

Table 2. Operational areas of the company

K. Satisfaction with current job

To evaluate job satisfaction, a composite scale has been used [9] made up of by four items evaluating satisfaction with the content of the job (the tasks), with workmates, with the company or organization and with the salary.

L. Professional self-efficacy

Finally, professional self-efficacy was measured using a scale [10] made up of five items.

M. Other variables

Other variables explored, with no significant differences been found: age, time elapsed since obtaining current job, promotion prospects at current company, type of company (public vs. private), company size, company's geographical area of action.

2.3 Data analysis

In order to analyse the data collected, descriptive statistical analyses, T tests to compare averages between independent samples and Chi^2 tests to test the equality of distributions have been carried out, all of them using the SPSS statistical package.

3 RESULTS

We will now show the main results, based on the statistical analyses carried out, in tables.

3.1 Descriptive

A. Matching

Concerning the variable "matching", 67.7% of the sample at the time of answering the survey were doing a job that matched their level of studies.

	Frequency	Valid percentage
Yes	371	67.7
No	177	32.3
Total	548	100

Table 3. Professional category matching

B. Socio-demographic variables

As can be seen in the following tables, the majority of the sample consisted of women (59.74%), with an average age of approximately 29. More than half the graduates are living away from the parental home (54.6%).

	Frequency	Valid percentage
Women	328	59.74
Men	221	40.26
Total	549	100

Table 4. Sex

Minimum	Maximum	Average	Stand. dev.
24	55	28.76	3.65

Table 5. Age

		Frequency	Percentage	Valid percentage
Valid	I live with my parents	237	42.9	43.6
	I live in a couple, without children	167	30.3	30.7
	I live in a couple, with children	46	8.3	8.5
	I share accommodation with other adults	38	6.9	7
	I live alone	46	8.3	8.5
	Others	10	1.8	1.8
	Total	544	98.6	100
Lost in	In system	8	1.4	
Total		552	100	

Table 6. Home circumstances

C. Job-search techniques

The most successful techniques are applying for public or private jobs offered (40.25%) and using personal social networks (30.9%). TECs and signing up with public employment services show the lowest percentages (2.3% and 7.6%, respectively).

		Frequency	Percentage	Valid percentage
Valid	On-spec application	90	16.3	19
	Family/acquaintances	146	26.4	30.9
	TEC	11	2	2.3
	Public/Press/advertised offer	190	34.4	40.2
	Active registration	36	6.5	7.6
	Total	473	85.7	100
Lost in	System	79	14.3	
Total		552	100	

Table 7. Job-search techniques

D. Mobility

Only 9% of participants in the study have changed their province of residence between their studies and their current situation.

		Frequency	Percentage	Valid percentage
Valid	No	473	85.7	91
	Yes	47	8.5	9
	Total	520	94.2	100
Lost in	System	32	5.8	
Total		552	100	

Table 8. Mobility

E. Type of contract

Among those surveyed, indefinite contracts predominate (66.7%). Self-employment represents a figure of 5.7%.

		Frequency	Percentage	Valid percentage
Valid	Self-employment	31	5.6	5.7
	Indefinite	360	65.2	66.7
	Temporary	126	22.8	23.3
	Other types of contract	23	4.2	4.3
	Total	540	97.8	100
Lost in	System	12	2.2	
Total		552	100	

Table 9. Type of contract

F. Working day

The majority of graduates in the sample work full-time (87.2%).

		Frequency	Percentage	Valid percentage
Valid	Full-time	478	86.6	87.2
	Part-time	38	6.9	6.9
	Shift work	15	2.7	2.7
	Other	17	3.1	3.1
	Total	548	99.3	100
Lost in	System	4	0.7	
Total		552	100	

Table 10. Working day

G. Tasks with responsibility

84% of those surveyed assume tasks with responsibility in their jobs.

		Frequency	Percentage	Valid percentage
Valid	Yes	455	82.4	84.1
	No	86	15.6	15.9
	Total	541	98	100
Lost in	System	11	2	
Total		552	100	

Table 11. Tasks with responsibility

H. Gross annual salary

As can be seen in table 12, the average gross salary in the sample is just over €18,000 a year.

Minimum	Maximum	Average	Stand. dev.
600	120,000	18,203.45	9775.23

Table 12. Gross annual salary

I. Company's economic activity

The activities employing the greatest proportion of graduates from the sample are the public sector (26.9%) and business services (12.1%).

		Frequency	Percentage	Valid percentage
Valid	Business services	66	12	12.1
	Public	147	26.6	26.9
	Private education	21	3.8	3.8
	Ceramics	51	9.2	9.3
	IT services	15	2.7	2.7
	Metallurgy and electrical	14	2.5	2.6
	Tourism	26	4.7	4.8
	Other social activities	13	2.4	2.4
	Timber	13	2.4	2.4
	Chemicals, plastics, glass, packaging	13	2.4	2.4
	Agriculture, stock farming, hunting, fishing, forestry	9	1.6	1.6
	Finance	40	7.2	7.3
	Construction	40	7.2	7.3
	Insurance	2	0.4	0.4
	Automotive	7	1.3	1.3
	Paper, graphics, publishing, reproduction	6	1.1	1.1
	Food	4	0.7	0.7
	Transport	6	1.1	1.1
	Textiles, garments	4	0.7	0.7
	Energy	2	0.4	0.4
	Others	47	8.5	8.6
	Total	546	98.9	100
Lost in	System	6	1.1	
Total		552	100	

Table 13. Economic activity

J. Operational area of the company

The operational areas where the subjects of the study are most frequently employed are training/teaching (21.1%) and the administration and finance (18.6%).

		Frequency	Percentage	Valid percentage
Valid	Sales and marketing	39	7.1	7.3
	Production	29	5.3	5.5
	General services	23	4.2	4.3
	Administration and finance	99	17.9	18.6
	Information technology	23	4.2	4.3
	Human resources	21	3.8	3.9
	Customer care	38	6.9	7.1

	General management	11	2	2.1
	Training/teaching	112	20.3	21.1
	R+D/Research	20	3.6	3.8
	Health	15	2.7	2.8
	There are no differentiated operational areas	37	6.7	7
	Others	65	11.8	12.2
	Total	532	96.4	100
Lost in	System	20	3.6	
Total		552	100	

Table 14. Operational area

K. Job satisfaction

The surveys show a medium level of job satisfaction, although the graduates are more satisfied with aspects like job content or workmates than salary.

	Minimum	Maximum	Average	Stand. dev.
Satisfaction with tasks	0	4	3.09	0.84
Satisfaction with workmates	0	4	3.13	0.9
Satisfaction with the company	0	4	2.73	1.03
Satisfaction with the salary	0	4	2.44	1.14
Satisfaction (average)	0.25	4	2.85	0.74

Table 15. Job satisfaction

L. Employment self-efficacy

Overall, the graduates who are working show average/high levels of employment self-efficacy.

I feel capable of doing my job well…	Minimum	Maximum	Average	Stand. dev.
…even though I have to solve difficult problems	0	4	3.13	0.69
…even though unexpected situations arise	0	4	3.12	0.7
…even though I face many obstacles	0	4	2.93	0.8
…even though I devote much time and energy to it	0	4	3.15	0.81
…even though I have to keep up to date with continuous advances	0	4	3.06	0.86
Employment self-efficacy (average)	0	4	3.08	0.61

Table 16. Employment self-efficacy

3.7 Comparison of averages and distributions

In the case of continuous or scale variables, averages have been compared between the matching and non-matching groups using a T test for independent samples. Table 17 shows the results obtained: Matching, group size, average, standard deviation and T value. Only the variables showing differences between averages that are significant or very close to being significant are shown ([1]).

	Matching	N	Average	Stand. dev.	T
Satisfaction with tasks	Yes	369	3.24	0.77	5.970***
	No	177	2.77	0.9	
Satisfaction with workmates	Yes	363	3.18	0.87	1.973*
	No	177	3.02	0.95	
Satisfaction with the company	Yes	367	2.87	0.98	4.228***
	No	177	2.46	1.07	

Satisfaction with the salary	Yes	369	2.6	1.1	4.997***
	No	177	2.09	1.15	
Job satisfaction (average)	Yes	369	2.98	0.7	5.971***
	No	177	2.59	0.75	
I feel capable of doing my job well…					
…even though I have to solve difficult problems	Yes	361	3.17	0.64	1.963[1]
	No	177	3.05	0.77	
…even though unexpected situations arise	Yes	362	3.17	0.66	2.832**
	No	177	2.99	0.75	
…even though I face many obstacles	Yes	362	2.97	0.78	1.665**
	No	177	2.85	0.84	
…even though I devote much time and energy to it	Yes	361	3.23	0.77	3.247**
	No	177	2.99	0.85	
…even though I have to keep up to date with continuous advances	Yes	362	3.18	0.78	4.275***
	No	176	2.82	0.96	
Employment self-efficacy (average)	Yes	362	3.14	0.57	3.652***
	No	177	2.94	0.67	
Gross annual salary	Yes	353	20199.94	10691.92	8.362***
	No	175	14154.58	5898.29	

***<.05; **<.005; ***<.001 / [1] = .05**

Table 17. Results of the average comparison T test

In the case of category variables, Chi^2 comparisons have been carried out. For each variable, the percentage of the matching group, the degrees of freedom (d.f.) and the value of the Chi^2 statistic are shown. Only variables that have shown statistically significant differences in category distribution are shown.

		Fit	d.f.	Chi²
Sex	Women	61.8%	1	14.028***
	Men	77.1%		
Home circumstances	I live with my parents	57.2%	5	24.445***
	I live in a couple, without children	72.1%		
	I live in a couple, with children	73.3%		
	I share accommodation with other adults	86.8%		
	I live alone	80.4%		
	Others	80.0%		
Mobility	No	66.1%	1	7.073*
	Yes	85.1%		
Most effective JST for current job	On-spec application	62.5%	4	190.899**
	Family/acquaintances	69.9%		
	TEC	27.3%		
	Public/Press/advertised offer	72.5%		
	Active registration	44.4%		
Type of contract	Self-employment	93.5%	3	12.101*
	Indefinite	66.5%		
	Temporary	61.6%		
	Others	73.9%		
Working day	Full-time	70.1%	3	12.117*
	Part-time	52.6%		
	Shift work	40.0%		
	Others	52.9%		
Tasks with responsibility	Yes	73.7%	1	55.326***
	No	32.6%		

		Fit	d.f.	Chi²
Economic activity	Business services	65.2%	20	38.020* [1]
	Public	70.3%		
	Private education	95.0%		
	Ceramics	66.7%		
	IT services	100.0 %		
	Metallurgy and electrical	64.3%		
	Tourism	61.5%		
	Other social activities	92.3%		
	Timber	53.8%		
	Chemicals, plastics, glass, packaging	84.6%		
	Agriculture, stock farming, hunting, fishing, forestry	66.7%		
	Finance	45.0%		
	Construction	65.0%		
	Insurance	50.0%		
	Automotive	57.1%		
	Paper, graphics, publishing, reproduction	100.0 %		
	Food	50.0%		
	Transport	50.0%		
	Textiles, garments	50.0%		
	Energy	100.0 %		
	Others	63.8%		
Operational area of the company	Sales and marketing	79.5%	12	111.364***
	Production	79.3%		
	General services	52.2%		
	Administration and finance	37.4%		
	Information technology	91.3%		
	Human resources	76.2%		
	Customer care	34.2%		
	General management	90.9%		
	Education/teaching	92.7%		
	R+D/Research	85.0%		
	Health	66.7%		
	There are no differentiated operational areas	64.9%		
	Others	60.0%		

Table 18. Results from the Chi² test for independence of distributions.

<.05; **<.005; *<.001*

[1] *20 boxes (47.6%) have an expected frequency of less than 5*

As has already been mentioned, no statistically significant differences have been found in the distribution of the following variables between the matching and non-matching groups. Situation before studies, province/autonomous community of residence, job at company where work placement was carried out, average academic grade, stays abroad after studies, company variables (size, location, sector...), general education after studies.

4 CONCLUSIONS

In previous studies [3], one of the most significant results in terms of careers advice to students and graduates was the individual's capacity to affect certain variables that are useful for getting a matching job. Although there are socio-demographic variables, such as sex and parents' level of studies, that

affect the graduate's level of matching, other variables linked to education and job-search strategies are also decisive in this respect. This is the case with proactive JSTs and self-employment.

As for the results concerning socio-demographic variables, which can, to some degree, be related to graduates' quality of personal and family life, university graduates with a job matching their level of studies show higher rates of independence from their parents and geographical mobility. This higher percentage for mobility is related both to a greater probability of finding work and a higher level of studies. A study conducted by the Association of Large Temporary Employment Companies (AGETT) states that 70% of unemployed people who change their geographical area of residence get a job [7][8].

The best matched graduates make greater use of proactive job-search techniques, such as applying for jobs offered (in both the public and private sectors), relying on personal social networks or on-spec applications. Graduates who have opted to set up their own businesses also show higher levels of matching.

We have found differences in matching for graduates in terms of the sectors of production where they work: the sectors with the best matching are: private education, public sector, IT services, other social activities, chemistry-plastics-glass and packaging, paper-graphics-publishing and production, and energy. On the other hand, the tourism and financial sectors are where we find graduates with the poorest matching. There are no significant differences in the other sectors.

Considering the operational areas of the company, as might be expected, in general services, administration and finance and customer care, a greater percentage of graduates were doing non-matching jobs. However, in the other areas matching is better, particularly in training and teaching, information technology, management and R+D.

Concerning employment characteristics, matched graduates had more full-time jobs and were carrying out tasks with responsibility, while university graduates working shifts were doing less well matched jobs.

In terms of salaries, matched graduates earn an average of 6000 euros a year more than their non-matched counterparts. They are also more satisfied with all the aspects measured (workmates, tasks, salary and company). Finally, they are much more professionally self-sufficient that unmatched graduates.

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