
This item was submitted to [Loughborough's Research Repository](#) by the author.
Items in Figshare are protected by copyright, with all rights reserved, unless otherwise indicated.

Self-perceived employability in Spain

PLEASE CITE THE PUBLISHED VERSION

<https://doi.org/10.1108/ET-03-2017-0037>

PUBLISHER

© Emerald

VERSION

AM (Accepted Manuscript)

PUBLISHER STATEMENT

This work is made available according to the conditions of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0) licence. Full details of this licence are available at:
<https://creativecommons.org/licenses/by-nc-nd/4.0/>

LICENCE

CC BY-NC-ND 4.0

REPOSITORY RECORD

Vargas, Reyes, Maria Inmaculada Sanchez-Queija, Andrew T. Rothwell, and Agueda Parra. 2019. "Self-perceived Employability in Spain". figshare. <https://hdl.handle.net/2134/32096>.

Self-perceived employability in Spain

Journal:	<i>Education + Training</i>
Manuscript ID	ET-03-2017-0037.R1
Manuscript Type:	Research Paper
Keywords:	Employability, Self-perceived employability, Undergraduates, Validity study, Factor analysis

Self-perceived employability in Spain

Abstract

Purpose

The purpose of this paper is to validate in Spain the Self-perceived Employability Scale (SPE, Rothwell *et al.*, 2008) and explore its relationship with sociodemographic variables. The SPE is an employability scale designed to examine undergraduates' expectations and self-perceptions of employability. The SPE includes an internal and external dimensions of employability and has been satisfactorily tested in a variety of contexts.

Design/methodology/approach.

The sample comprised 1502 Spanish undergraduate students from a broad range of subject areas. Confirmatory Factor Analyses (CFA) and Exploratory Factor Analyses (EFA) were conducted. Finally the Spanish-SPE (S-SPE) was studied in relation to a set of demographic variables.

Findings/implications

The results revealed similar findings to those reported by Rothwell *et al.* (2008), namely four factors labeled: the external labor market's demand for people in my subject field, my confidence in my skills and abilities, the status and credibility of my field of study and my engagement with my studies and academic performance. The external and internal employability dimensions were obtained by forcing a two-factor solution. Men scored higher than women in the S-SPE; science students scored higher than arts and humanities undergraduates and students with higher perceived income levels scored higher than those with lower perceived income levels.

Originality/value

The S-SPE can be used with Spanish speaking university students (Spanish being the second most widely spoken language in the world) and allows cross-cultural comparisons of undergraduates' self-perceived employability. The S-SPE may help guide the development of social policies and programs designed to enhance employability. It can be used with undergraduates as a diagnostic instrument in career counseling, and as a self-assessment instrument which will enable undergraduates to acquire a greater degree of self-knowledge in relation to their employability.

Keywords: Employability, Graduate employment, Undergraduate students.

Paper type: Research paper

1
2
3
4
5
6 Finding and then keeping a job is a major issue in most economies. As a result of the
7
8 general economic downturn, since 2008 unemployment rates have risen to 9.4 % in the
9
10 European Union (EU) and 22.1 % in Spain (European Commission Eurostat, 2015).
11
12 Unemployment rates among the youth population are particularly alarming in Spain,
13
14 where, in 2015, when the research field work described in this paper was carried out,
15
16 44.8 % (a figure twice as high as the EU mean) were unable to find a job (Organisation
17
18 for Economic Co-operation and Development , OECD, 2015).
19
20

21
22 In Spain, 29.4% of young people aged between 18 and 24 are university students
23
24 (Ministerio de Educación, Cultura y Deporte , MECD, 2015). However, having a
25
26 university degree does not guarantee employment, as is evidenced by the fact that
27
28 19.2% of those that graduated in 2010 were unemployed in 2014 (Instituto Nacional de
29
30 Estadística , INE, 2015).
31
32

33 High unemployment rates among young university graduates reflect how hard it
34
35 is for this population to find a job, and point to the need to help and support them in this
36
37 undertaking (Lantarón, 2014). Even those Spanish graduates who do find employment
38
39 claim that their university studies failed to provide them with the skills necessary to
40
41 seek, find and hold down a job (Michavilla *et al.*, 2016). Accordingly, the measures
42
43 taken by universities to promote employability seem insufficient (Lantarón, 2014), with
44
45 undergraduates failing to receive the help they require to become employable.
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

In order to redress this problem and provide the support materials required to design more effective employability improvement strategies, our aim is to validate a brief questionnaire for measuring students' employability. This instrument will help fill the existing gap in empirical research into undergraduate employability in Spain, since, to date, this concept has mainly been studied either at a theoretical level or among the employed population (Alvarez *et al.*, 2017, Qenani *et al.*, 2014).

Employability as a concept

The concept of employability is used in different contexts and often has more than one meaning (Alvarez *et al.*, 2017; Forrier *et al.*, 2015). Rothwell (2015) identified four perspectives from which employability is studied. The first is the political perspective, focused on reducing unemployment and the social disadvantages it entails. This is the perspective adopted by modern-day governments, which have promoted the notion of employability linked to inclusion and skills development in the labor market (Felstead, 2013; Tymon, 2013). The principal limitation of this approach is that a focus on employability has potentially distracted from job preservation (eg. from offshoring), job creation and job sustainability (Kochan, 2012; Rothwell, 2015). The second perspective is the educational one, which focuses on graduates' access to the labor market following the rapid increase in their numbers since the late 20th century. This perspective emphasizes the role of employability in the curriculum. While this approach is well developed in other countries (Pegg, *et al.*, 2012), it is relatively undeveloped in Spain. The third perspective is that of human resource management, which, somewhat controversially, focuses on employer-led employability strategies to enable individuals

1
2
3 to sustain their careers in the light of increased job instability and insecurity (Nauta *et*
4 *al.*, 2009). Finally, the fourth perspective is the individual one, which focuses on each
5 person's own capacity to find and keep a job of an appropriate level.
6
7
8
9

10 Within the individual perspective, three main approaches can be identified in the
11 literature: competence-based employability, trait-based individual employability and
12 self-perceived employability. The competence-based employability approach (De Vos
13 *et al.*, 2011) analyzes the skills and abilities which facilitate job-finding opportunities.
14 The trait-based individual employability approach (Fugate and Kinicki, 2008) refers to
15 proactive attitudes adopted by individuals when looking for and seeking to hold onto a
16 job. Finally, the self-perceived employability approach focuses not just on internal
17 personal factors related to one's perception of one's own capacities and skills for finding
18 a job, but also on structural or external factors, such as the individual's perception of the
19 impact of the external employment market and the importance of their qualifications or
20 profession when trying to find a job. As a result of this twofold dimension (internal and
21 external), the self-perceived employability approach is the most comprehensive of those
22 developed within the individual perspective. The internal and external dimensions
23 interact with each other, since the perception of one's own capacities and skills impacts
24 how the external dimension is viewed, and the perception of the external market
25 influences the perception of one's own capabilities (Batistic and Tymon, 2017).
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47

48 ***Measuring student self-perceived employability***
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 Within an area of research which has grown rapidly over the last decade, a number of
4 psychometrically sound measures of student self-perceived employability have
5 emerged. Initially these were derived from research in relation to the employed
6
7
8
9 population. Rothwell and Arnold (2007) developed a 16-item questionnaire based on a
10
11 quadrant-type theoretical model with the dimensions: personal attributes, occupational
12
13 attributes, and the internal and external labor markets. An exploratory factor analysis
14
15 with a sample of professional workers suggested that the measure was distinct from
16
17 other variables, was potentially psychometrically sound ($\alpha = .83$) and had the potential
18
19 to be used either as one whole scale or as two separate ones: external employability and
20
21 internal employability.
22
23
24

25 For our purposes, we have translated a scale developed in a second empirical
26
27 study (Rothwell *et al.*, 2008) conducted with 344 undergraduates. The theoretical
28
29 conception of the study once again included an internal dimension, self-beliefs (D1),
30
31 and an external dimension, the prevailing state of the external labor market (D2). The
32
33 authors added two new dimensions related to the undergraduate sample: the impact that
34
35 the university's reputation (brand image) might have on a student's employability
36
37 perception (D3) and the impact of the student's particular field of study (D4). In this
38
39 case, from the four dimensions and their interactions, an 8-component theoretical model
40
41 emerged (see fig 1). Components are measured/evaluated by two items and are as
42
43 follows: first component, my engagement with my studies and academic performance
44
45 (interaction between dimensions D1 and D3); second component, my perception of the
46
47 strength of the university's brand (principal component of dimension D3); third, the
48
49 reputation my university has within my field of study (interaction between dimensions
50
51
52

1
2
3 D3 and D4); fourth, the status and credibility of my field of study (principal component
4 of dimension D4); fifth, the external labor market's demand for people in my subject
5 field (interaction between dimensions D4 and D2); sixth, my perception of the state of
6 the external labor market (principal component of dimension D2); seventh, my
7 awareness of opportunities in the external labor market (interaction between dimensions
8 D2 and D1); and finally, eighth, my confidence in my skills and abilities (principal
9 component of dimension D1).

10
11
12
13
14
15
16
17
18 Figure 1 about here
19

20
21 An exploration of the student self-perceived employability scale's factor
22 structure once again confirmed the existence of two factors, broadly related to external
23 ($\alpha = .76$) and internal ($\alpha = .66$) employability. The first was related to the respondent's
24 perception of the state of the external labor market, the perception of the strength of the
25 university's brand and the status and credibility of their field of study. The second was
26 related to self-belief (i.e. their confidence in their skills and abilities). The overall 16-
27 item scale also had good internal reliability ($\alpha = .75$), and was further tested with a post-
28 graduate sample (Rothwell *et al.*, 2009). A number of subsequent studies (for example,
29 Engelberg and Limbach-Reich, 2012; Alibaygi *et al.*, 2013; Maiolo *et al.*, 2013; Di
30 Fabio, 2014; Gamboa and Paixao, 2014; Creed and Gagliardi, 2015; Huang, 2015;
31 Goodman and Tredway, 2016; Swigon, 2016;) have also satisfactorily tested the full
32 SPE scale in a variety of contexts, in these cases Luxembourg, Iran, Italy, Portugal,
33 Australia, Taiwan, South Africa and Poland. The measure appeared robust as in each
34 case internal reliabilities (Cronbach, 1951) had been .7 or above for both the overall
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51

1
2
3 scale and internal and external employability subscales (DeVellis, 2012). This
4
5 suggested that, having accounted for local factors, we should be able to build on the
6
7 studies described above in order to validate the employability scale with Spanish
8
9 undergraduates. There are numerous adaptations of parts of the scale (for example, in a
10
11 Spanish study, Caballero *et al.*, 2017), however the scope of most components of the
12
13 original scale suited our purpose well.
14

15
16 The aim of this present study was therefore to validate the Self-perceived
17
18 Employability Scale (SPE) in Spain (S-SPE). To this end, the scale's factor structure
19
20 was analyzed, along with its relationship with sociodemographic variables such as
21
22 gender, family income and field of knowledge. Our definition of employability is taken
23
24 as the ability to find and hold onto a job (Rothwell *et al.*, 2008). In relation to this aim,
25
26 our first hypothesis (H1) was that the factor structure of the S-SPE would be similar to
27
28 that described in the previous studies listed above. On the other hand, the Spanish
29
30 Employment Statistics Institute (INE, 2015) reported higher unemployment rates among
31
32 women and arts and humanities graduates than among men and those with a degree in
33
34 the sciences (respectively). Based on these data, our hypotheses were (H2) that men
35
36 would score higher for self-perceived employability than women and (H3) that science
37
38 students would score higher than arts and humanities undergraduates. In relation to
39
40 income level, after Gordon (2013), we expected that (H4) those with a high purchasing
41
42 power (i.e. individuals from more affluent backgrounds) would score higher than those
43
44 with a low purchasing power.
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Methods

The study utilized the 16-item employability scale by Rothwell *et al.* (2008, 2009), to which participants respond on a Likert-type scale with anchors from strongly disagree (1) to strongly agree (5). The four items related to the D3 and D4 components (“My perception of the strength of the university's brand” and “The reputation my university has within my field of study”, respectively) were excluded from our study as not being relevant in the Spanish context. In some countries (eg. the UK), the ranking of a university is considered carefully when students choose a university. However, although these university rankings have become more widely available in Spain since the implementation of the Bologna Plan in 2010 (Vidal, 2015), they are not yet an important factor in the choice of which university to attend. Spain has many public universities located all over the country, and it is precisely these public universities that are positioned highest on global league tables such as the Shanghai Ranking. The faculty selection and student admissions criteria are similar in all public universities and tuition fees vary only within a very narrow range established by the government and are similar all over the country. The criteria for obtaining research funding are also similar, and most funding is provided through competitive public calls for proposals. Only public funding obtained through competitive calls is taken into account on researchers' résumés. As a result of all this, the standing of the public universities in which 87% of Spanish students study is recognised as similar all over the country. Spanish students do not, therefore, choose their university on the basis of the strength of its brand (D3) or its reputation (D4), but rather in accordance with its proximity to their place of residence (MECD, 2015). As a result of these factors, which are unique to the Spanish context, the

1
2
3 scale was simplified to 12 items. The relative irrelevance of institutional ranking had
4
5 been incorporated in other international contexts while using this scale, for example
6
7 Engelberg and Limbach-Reich (2012), whose Luxembourg-based study noted that
8
9 employability (p. 5): ‘- should not be reduced to an erroneous measure of institutional
10
11 advancement’.

12
13
14 A sociodemographic questionnaire was also administered to gather information
15
16 about participants' gender and perceived family income level. Perceived family income
17
18 was divided into three levels. The lowest level was indicated by positive responses to
19
20 the items "At this moment in time, we have trouble making ends meet" and "We have
21
22 enough to live on provided no unexpected expenses crop up". Medium-level perceived
23
24 income was measured by "We have enough to live on provided no unexpected expenses
25
26 crop up" and "We can go on holiday and treat ourselves every now and then". Finally,
27
28 high perceived income level was reflected in the items "We're in pretty good financial
29
30 shape" and "We have no financial problems". Participants were also asked about their
31
32 field of study, in accordance with the category system commonly used in Spain
33
34 (MECD, 2015): Arts and Humanities; Social Sciences and Legal Studies; Engineering
35
36 and Architecture; Health Sciences; and Sciences.

37
38
39
40
41 In order to validate the factor structure of the employability construct, two
42
43 Confirmatory Factor Analyses (CFA) were conducted using the statistical package
44
45 AMOS, version 23.0 (Arbuckle, 2014). The CFAs aimed to validate the use of the scale
46
47 as a global measure of employability (IOFM), and, as a global measure of
48
49 employability made up of two factors (internal and external employability, 2O2FM).
50
51

1
2
3 Due to the ordinal scaling of the items and the large sample size, the ADF
4 (Asymptotically Distribution Free) method was chosen. The Chi-square index was used.
5 A non-significant Chi-square is considered indicative of good fit. However, as the Chi-
6 square value is totally dependent on sample size (Bentler and Bonnet, 1980), the CFI
7 (Comparative Fit Index), GFI (Goodness of Fit Index) and RMSEA (Root Mean Square
8 Error of Approximation) were also used. Models with CFI and GFI $\geq .95$ are considered
9 to have a good fit (Hu and Bentler, 1999), although .90 is acceptable (Hooper *et al.*,
10 2008). The RMSEA value should be equal to or lower than .08 in order to indicate good
11 fit (Hu and Bentler, 1999). Since the models analyzed were not found to have a good fit,
12 an Exploratory Factor Analysis (EFA) was carried out. Next, the EFA was repeated
13 with a forced two-factor solution in accordance with the findings of previous studies
14 regarding internal and external employability (for example., Rothwell *et al.*, 2008,
15 Huang, 2015; Goodman and Tredway, 2016;) Finally, using the SPSS™ V.23 statistical
16 package, mean employability scores were compared in accordance with gender,
17 perceived family income level and the participants' field of study.

18 *Participants*

19
20 The sample comprised 1502 undergraduate students (60.1% women, Mean age = 20.32,
21 SD age = 2.13, Range age 18-29). There were more women than men in the sample
22 group, which reflects the general situation in Spanish public universities. For example,
23 during the 2014-15 academic year, 54.4% of university students were female (MECD,
24 2015). An effort was made to recruit participants from different fields of knowledge in a
25 representative distribution (MECD, 2015): arts and humanities (8.5% in our sample,
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 9.5% in Spanish universities), social sciences and legal studies (32.2%, 46.6%),
4 engineering and architecture (23.5%, 20.2%), health sciences (29.2%, 17%) and
5 sciences (6.7%, 5.7%). Data were collected during class time in the autumn of 2015.

6
7
8
9 Students were assured that their answers would be treated with the utmost
10 confidentiality. They were also informed of the purposes of the research study and told
11 that the questionnaire was both voluntary and anonymous. None of the students in the
12 class at the time refused to participate. The research project was approved by the
13 Coordinating Committee for the Ethics of Biomedical Research in Andalusia (Spain).
14
15
16
17
18
19

20 21 Findings

22
23 In accordance with the theoretical framework, (Rothwell et al. 2008, 2009; *inter alia*),
24 two theoretical models were tested. The first evaluated the existence of a construct
25 called employability which is common to all 12 items (1OFM). The second model
26 evaluated aimed to test the existence of two factors (internal and external
27 employability) which form part of the common factor called employability (2O2FM).
28
29
30
31
32
33

34
35 The first model (1OFM), in which all 12 items were loaded on a single
36 employability factor (see fig 2) was found not to have an acceptable fit (Table 1). In the
37 second model (2O2FM, see fig 2), we tested whether external employability and
38 internal employability together formed a second-order factor called employability. As
39 shown in Table 2, none of the indexes indicated a good fit.
40
41
42
43
44
45
46

47 Figure 2 and Table 1 about here
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 Given that none of the models tested was found to have a good fit, an Exploratory
4 Factor Analysis was carried out to determine which structure best fitted the data
5
6 obtained. The use of this technique was justified by the KMO index of .80 and the
7
8 significance of the value obtained in Bartlett's sphericity test ($X^2(66) = 4534, p < .01$).
9
10 The EFA was carried out by means of principal component analysis (PCA). Using the
11
12 PCA, with varimax rotation, only factors with eigenvalues > 1 were retained (Kaiser,
13
14 1958). This procedure resulted in four factors which together explained 64% of the total
15
16 variance of the items. This value exceeds the criterion established by Hair *et al.* (2010).
17
18 Table 3 shows the factor loadings obtained. We used a cutoff value of .40 to establish a
19
20 solid factor loading coefficient (Swisher *et al.*, 2004).
21
22
23
24

25 The results (Table 2) revealed four factors equivalent to those proposed by
26
27 Rothwell *et al.* for undergraduates (2008) and postgraduates (2009), and confirmed by
28
29 other studies (Huang, 2015; Goodman and Tredway, 2016). The internal reliability
30
31 obtained for each factor is shown in Table 2. The two sub-scales which corresponded to
32
33 factors 3 and 4, each of which comprised 2 items, were not found to have good internal
34
35 reliability scores. The alpha indicators for factors 1 and 2 were acceptable, as was the
36
37 global employability scale indicator ($\alpha = .76$).
38
39
40

41 Table 2 about here
42
43

44 ***Internal and external employability*** 45

46
47 In order to determine whether these data could represent a two-factor structure (internal
48
49 and external employability), the EFA was repeated using the same procedure but
50
51 forcing a two-factor solution. The model explained 44.28% of the variance (see Table
52
53
54
55
56
57
58
59
60

1
2
3 3). With two exceptions, the items which theoretically represent internal employability
4 were grouped into factor 1 and those that represent external employability were grouped
5 into factor 2. The exceptions were Item 3 “A lot more people apply for my degree than
6 there are places available”, which was not grouped into either factor; and item 9, “I can
7 easily find out about opportunities in my chosen field”, which was grouped into external
8 employability, whereas in Rothwell *et al.* (2009) it formed part of the internal
9 employability factor. The internal reliability analysis revealed Cronbach's alphas of .81
10 and .64 for external and internal employability, respectively.
11
12
13
14
15
16
17
18
19
20
21

22 Table 3 about here

23
24 ***Employability and its relationship with gender, family income and field of knowledge***
25

26
27 Men and women's mean self-perceived employability scores were compared. The
28 results revealed that the mean self-perceived employability score obtained by men ($M=$
29 40.14) was higher than that obtained by women ($M=38.85$, $F(1, 1492) = 12.84$, $p <$
30 .001). As regards perceived family income, statistically significant differences were
31 found ($F= 9.98$, $p < .001$). The post-hoc Bonferroni correction analysis revealed that
32 these differences occurred between the lowest perceived income level (with participants
33 in this group perceiving themselves as less employable) and the highest perceived
34 income level.
35
36
37
38
39
40
41
42
43
44

45 Employability scores also differed in accordance with the field of knowledge of
46 participants' studies ($F(4, 1488) = 69.75$, $p < .001$). According to the Bonferroni
47 statistic, those studying arts and humanities ($M= 31.60$) had a lower level of self-
48
49
50
51

1
2
3 perceived employability than those studying degrees in other fields of knowledge. Next
4
5 in order were those studying social sciences and legal studies ($M= 38.41$) and sciences
6
7 ($M= 38.52$). Finally, students of engineering and architecture ($M= 41.29$) and health
8
9 sciences ($M= 41.31$) were the ones who considered themselves to be most employable.
10

11 12 **Discussion**

13
14
15 The results obtained from the administration of the 12-item Spanish Self-perceived
16
17 Employability Scale (S-SPE) to a sample of 1502 university students support the use of
18
19 this instrument **in a Spanish context**. Although the CFAs did not support the factor
20
21 structure proposed by Rothwell *et al.* (2008, 2009) **and other previous studies, the two**
22
23 **EFAs conducted did support it. The first one revealed similar results to those obtained**
24
25 **by Rothwell *et al.* (2008, 2009), indicating that the Spanish scale comprises the same**
26
27 **four factors: state of external labor market, self-belief, my field of study, and my**
28
29 **engagement with my studies and academic performance .The second one pointed to the**
30
31 **existence of two dimensions: internal and external employability. We therefore suggest**
32
33 **that the Spanish Self-perceived Employability Scale (S-SES) is a useful and valid scale**
34
35 **for assessing self-perceived employability and internal and external employability**
36
37 **among Spanish university students.**
38
39
40

41
42 **As regards relationship between S-SPE and socio-demographic variables, male**
43
44 **students scored higher on the self-perceived employability scale than their female**
45
46 **counterparts. These findings are consistent with Spanish employment statistics. In**
47
48 **Spain, unemployment is lower among men than among women, with 17.8% of male**
49
50

1
2
3 graduates under the age of 30 being unemployed, in comparison with 19.2% of female
4
5 graduates (INE, 2015).
6

7
8 Our results also indicate that students from families with higher perceived
9
10 income levels see themselves as more employable than those from families with lower
11
12 perceived income levels, supporting findings from previous SPE studies (Alibaygi *et*
13
14 *al.*, 2013; Maiolo *et al.*, 2013;). Their families may have their own companies or good
15
16 professional contacts which would facilitate networking and provide job opportunities
17
18 (Gordon, 2013). This is a potentially interesting area for further investigation in the
19
20 future: historically, employability research has focused on relatively disadvantaged
21
22 individuals. The impact of privilege and connections is relatively un-researched.
23
24

25
26 Finally, the results obtained with the S-SPE in the present study replicate those
27
28 reported by labor market surveys and employment rates: a higher percentage of health
29
30 science graduates are employed, and are therefore more employable, than their
31
32 counterparts from (in descending order) engineering and architecture, arts and
33
34 humanities, social sciences and sciences faculties (INE, 2015). Comparisons to the
35
36 wider employability literature are difficult as previous studies have tended to be based
37
38 on one field of study, such as business or psychology.
39
40

41 ***Conclusion***

42
43
44 Our study has a number of limitations. Firstly, the S-SPE was administered in a single
45
46 wave. Asking students to complete the questionnaire in a second wave would have
47
48 enabled us to verify the test-retest reliability. Secondly, no other self-perceived
49
50 employability instrument was used to verify the construct validity. Future research in
51
52

1
2
3 this area should include complementary self-perceived employability instruments that
4
5 have been validated in the Spanish context (for example, Alvarez *et al.*, 2017). Thirdly,
6
7 no additional non-demographic measures were included in the survey instrument to
8
9 check discriminant validity. Previous studies have covered a wide range of variables
10
11 including self-efficacy (Gamboa *et al.*, 2014; Di Fabio 2014); ambition and university
12
13 commitment (Rothwell *et al.*, 2008, 2009; Alibagyi *et al.*, 2013); and well-being and
14
15 career compromise (Creed and Gagliardi 2015). Testing discriminant validity is
16
17 therefore a research aim for the future. Finally, this is a cross-sectional study. A
18
19 longitudinal study gathering data some years after graduation would enable researchers
20
21 to determine whether undergraduates who perceived themselves as more employable
22
23 really were those most capable of finding a job in keeping with their qualification level
24
25 upon leaving university.
26
27

28
29 Nevertheless, the study does respond to two suggestions proposed by Rothwell
30
31 *et al.* (2009). Firstly, this study was conducted with a much larger sample (1502) of
32
33 undergraduates from all areas of knowledge. This has enabled us to confirm that the
34
35 instrument does indeed discriminate between students' self-perceived employability in
36
37 accordance with the real demands of the employment market. Secondly, the study
38
39 presented here is a replication of the scale in another country, which proves that the
40
41 measure is robust also in a very different social-labor context from that found in the
42
43 UK.
44
45

46
47 Our conclusion is that the Spanish Self-perceived Employability Scale (S-SES)
48
49 can be used as a general measure for assessing employability as part of basic research
50
51

1
2
3 activities. Being validated in different countries offers the advantage of enabling cross-
4
5 cultural comparisons, thus fostering advancement in the research field and improved
6
7 knowledge for planning public policies aimed at enhancing the employability of
8
9 university graduates. In this sense, in our opinion, the principal contribution made by
10
11 this paper is the applied nature of the instrument. Due to its brevity, the scale can be
12
13 used within the university environment itself as a screening instrument for detecting
14
15 those students most in need of help and guidance. It can also serve to establish a
16
17 baseline for the design of intervention programs in career counseling, and can be used
18
19 as a self-assessment instrument to enable undergraduates to acquire a greater degree of
20
21 self-knowledge in relation to their employability. As a concluding comment, we place
22
23 this research paper in the context of our wider research aims. These are to help enhance
24
25 the employability of young Spanish university graduates, among whom the
26
27 unemployment rates in our country are alarmingly high, a circumstance that
28
29 undoubtedly threatens the psychosocial well-being of those who represent both the
30
31 present and future of our society.
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

References

- Alibaygi A.H., Barani S., Karamidehkordi E. and Pouya M. (2013), “Employability determinants of senior agricultural students in Iran”, *Journal of Agricultural Science and Technology*, Vol. 15 No. 4, pp. 673-683.
- Alvarez, P., López-Miguens, M. J. and Caballero, G. (2017), "Perceived employability in university students: developing an integrated model", *Career Development International*, Vol. 22 No. 3, pp. 280-299.
- Arbuckle, J. L. (2014), *Amos (version 23)* [computer software]. Chicago, IBM: SPSS
- Batistic, S. and Tymon, A. (2017), “Networking behaviour, graduate employability: a social capital perspective”, *Education+ Training*, Vol. 59 No.4, pp. 374-388.
- Bentler, P. M. and Bonett, D. G. (1980), “Significance tests and goodness of fit in the analysis of covariance structures”, *Psychological Bulletin*, Vol. 88 No. 3, pp. 588-606.
- Caballero, G., Álvarez, P. and López-Miguens, M. (2017), Internal determinants of university student employability, construction and validation of scales ,in: *HEAd'17 (Higher Education Advances)Universitat 2017 , 3rd International Conference on Higher Education Advances, 21-23 June, 2017, Valencia, Spain.*
- Creed P.A. and Gagliardi R.E. (2015), “Career compromise, career distress and perceptions of employability: the moderating roles of social capital and core self-

- 1
2
3 evaluations”, *Journal of Career Assessment*, Vol. 23 No.1, pp.20-34.
4
5
6 Cronbach, L. J. (1951), “Coefficient alpha and the internal structure of tests”
7
8 *Psychometrika*, Vol.16 No.3, pp. 297 - 334.
9
10
11 DeVellis, R.F., (2012), *Scale development: Theory and applications, (3rd Edn)*,
12
13 *Thousand Oaks, California, Sage*.
14
15
16 De Vos, A., De Hauw, S. and Van der Heijden, B. I. J. M. (2011), “Competency
17
18 development and career success: The mediating role of employability”, *Journal of*
19
20 *Vocational Behavior*, Vol. 79 No. 2, pp. 438 - 447. Di Fabio, A. (2014),
21
22 “Intrapreneurial self-capital – a new construct for the 21st century”, *Journal of*
23
24 *Employment Counselling*, Vol. 51 No.3, pp. 98-111.
25
26
27
28 Engelberg E. and Limbach-Reich A. (2011), “After the Bologna reform: employability
29
30 of Bachelors in social and educational work in Luxembourg”, *Social Work*
31
32 *Education*, Vol. 31 No.4, pp. 807-818.
33
34
35
36 European Commission (2015), *Eurostat, Employment and unemployment, Labour Force*
37
38 *Survey, Total unemployed rate*, available
39
40 at:<http://ec.europa.eu/eurostat/web/lfs/data/main-tables/>(accessed 06 January
41
42 2017).
43
44
45
46 Felstead, A. (2013), “Skills at work”, *Society Now*, Vol. 16 Summer Issue, pp. 16–17.
47
48
49
50
51
52
53
54
55
56
57
58
59
60

- 1
2
3 Forrier, A. and Sels, L. (2003), “The concept employability: a complex mosaic”,
4
5 *International Journal of Human Resources Development and Management*,
6
7 Vol.3 No.2, pp. 102-124.
8
9
- 10 Forrier, A., Verbruggen, M. and De Cuyper, N. (2015), “Integrating different notions of
11
12 employability in a dynamic chain: The relationship between job transitions,
13
14 movement capital and perceived employability”, *Journal of Vocational Behavior*,
15
16 Vol. 89, pp. 56–64.
17
18
- 19 Fugate, M. and Kinicki, A. J. (2008), “A dispositional approach to employability:
20
21 Development of a measure and test of implications for employee reactions to
22
23 organizational change”, *Journal of Occupational and Organizational Psychology*,
24
25 Vol. 81 No 3, pp. 503–527.
26
27
- 28 Gamboa V., Paixao O. and Palma A.I. (2014), “Adaptabilidade de Carreira e
29
30 Autoeficácia na Transição para o Trabalho: O papel da Empregabilidade
31
32 Percebida: Estudo com Estudantes do Ensino Superior”, *Revista Portuguesa de*
33
34 *Pedagogica*, Vol. 48 No. 2, pp. 133-156.
35
36
37
- 38 Goodman S. and Tredway G. (2016), “Antecedents of perceived graduate
39
40 employability: a study of student volunteers in a community-based organization”,
41
42 *South African Journal of Industrial Psychology*, Vol. 41 No. 1, pp. 1315-1325.
43
44
- 45 Gordon, D.A.(2013), *Employability and Social Class in the Graduate Labour Market*,
46
47 PhD. Thesis, Cardiff University, available at:
48
49 https://orca.cf.ac.uk/46473/1/dg_phd.pdf
50
51

- 1
2
3 Hair, J. F., Black, W.C., Babin, B. and Anderson, R. E. (2010), *Multivariate data*
4
5 *analysis* (7th Ed), Prentice Hall, New Jersey.
6
7
8 Hooper, D., Coughlan, J. and Mullen, M. (2008), “Structural Equation Modelling:
9
10 Guidelines for Determining Model Fit”. *Electronic Journal of Business Research*
11
12 *Methods*, Vol. 6 No. 1, pp. 53-60.
13
14
15 Hu, L. T. and Bentler, P. M. (1999), “Cutoff criteria for fit indexes in covariance
16
17 structure analysis: Conventional criteria versus new alternatives”, *Structural*
18
19 *Equation Modeling: a Multidisciplinary Journal*, Vol. 6 No. 1, pp. 1-55.
20
21
22 Huang, J. (2015), “Hardiness, perceived employability, and career decision self-efficacy
23
24 among taiwanese college students”, *Journal of Career Development*, Vol. 42 No.4,
25
26 pp. 311-324.
27
28
29
30 INE, Instituto Nacional de Estadística (2015), *Encuesta de Inserción Laboral de los*
31
32 *Titulados Universitarios EILU 2014*, Madrid: INE, available
33
34 at: <http://www.ine.es/prensa/np957.pdf>/(accessed 06 January 2016).
35
36
37 Kaiser, H. F. (1958), “The varimax criterion for analytic rotation in factor analysis”,
38
39 *Psychometrika*, Vol. 23 No. 3, pp. 187-200.
40
41
42 Kochan, T. A. (2012), “A jobs compact for America’s future”, *Harvard Business*
43
44 *Review*, March, available at: [http://hbr.org/2012/03/a-jobs-compact-](http://hbr.org/2012/03/a-jobs-compact-foramericas-future/ar/1/)
45
46 [foramericas- future/ar/1/](http://hbr.org/2012/03/a-jobs-compact-foramericas-future/ar/1/) (accessed 12 October 2016).
47
48
49 Lantarón, B. (2014), “La empleabilidad en la Universidad Española” *Journal for*
50
51 *Educators, Teachers and Trainers*, Vol. 5 No. 2, pp. 272 – 286.
52
53
54
55
56
57
58
59
60

1
2
3 Maiolo M.E, Zuffo R.G. and Cortini M. (2013), “Students’ academic performance and
4 employability: a study on Italian undergraduates”, *International Journal of*
5 *Learning in Higher Education*, Vol. 19 No. 4, pp. 49-60.
6
7

8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
MECD, Ministerio de Educación, Cultura y Deporte (2015), *Datos y Cifras del Sistema*
Universitario Curso 2014/15, Madrid: MECD, Available at:
<http://www.mecd.gob.es/dms/mecd/educacion-mecd/areas-educacion/universidades/estadisticas-informes/datos-cifras/Datos-y-Cifras-del-SUE-Curso-2014-2015.pdf> (accessed 10 December 2016).

21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
Michavilla, F., Martínez, J. M., Martín-González, M., García-Peñalvo, F. J. and Cruz-
Benito, J. (2016), *Barómetro de Empleabilidad y Empleo de los Universitarios en*
España, 2015 Primer informe de resultados, Observatorio de Empleabilidad y
Empleo Universitarios, (online) available at:
<https://gedos.usal.es/jspui/handle/10366/127374>, (accessed 06 October 2016).

32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
Nauta, A., Van Vianen, A., Van der Heijden, B., Van Dam, K. and Willemson, M.
(2009), “Understanding the factors that promote employability orientation: The
impact of employability culture, career satisfaction, and role breadth self-
efficacy”, *Journal of Occupational and Organizational Psychology*, Vol. 82 No.
2, pp. 233–251.

44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
OECD Organisation for Economic Co-operation and Development (2015), *Youth*
unemployment rate, available at:<https://data.oecd.org/unemp/youth-unemployment-rate.htm#indicator-chart/>(accessed 06 January 2017).

1
2
3 Pegg, A., Waldock, J., Hendy-Isaac, S. and Lawton, R. (2012), *Pedagogy for*
4
5 *employability*, Higher Education Academy, York, England.
6

7 Qenani, E., MacDougall N. and Sexton C., (2014), “An empirical study of self-
8
9 perceived employability: improving the prospects for student employment success
10
11 in an uncertain environment”, *Active Learning in Higher Education*, Vol. 15 No. 2,
12
13 pp. 199-213.
14

15
16 Rothwell, A. and Arnold, J. (2007), “Self-perceived employability: development and
17
18 validation of a scale”, *Personnel Review*, Vol. 36 No. 1, pp. 23–41.
19

20
21 Rothwell, A., Herbert, I. and Rothwell, F. (2008), “Self perceived employability:
22
23 Construction and initial validation of a scale for university students”, *Journal of*
24
25 *Vocational Behavior*, Vol. 73 No. 1, pp.1–12.
26

27
28 Rothwell, A., Jewell, S. and Hardie, M. (2009), “Self-perceived employability:
29
30 Investigating the responses of post-graduate students”, *Journal of Vocational*
31
32 *Behavior*, Vol. 75 No. 2, pp.152–161.
33
34

35
36 Rothwell, A. T. (2015), Employability, in Hartung, P. J., Savickas, M. L. and Walsh, W.
37
38 B. (Editors-in-Chief), *APA Handbook of Career Intervention: Vol. 2, Applications*,
39
40 Chapter 25, Vol. 2, pp. 337–350, APA: Washington DC.
41
42

43 Swigon M., (2016), “Self perceived employability of students of international relations
44
45 of University of Warmia and Mazury in Poland”, *International Journal of*
46
47 *Behavioural, Educational, Economic, Business and Industrial Engineering*, Vol.
48
49 10 No. 11, pp. 3299-3304.
50

1
2
3 Swisher, L. L., Beckstead, J. W. and Bebeau, M. J. (2004), "Factor analysis as a tool for
4
5 survey analysis using a professional role orientation inventory as an
6
7 example", *Physical Therapy*, Vol. 84 No. 9, pp. 784-799.
8
9

10 Tymon, A. (2013), "The Student Perspective on Employability", *Studies in Higher*
11
12 *Education*, Vol. 38 No. 6, pp. 841–856.
13
14

15 Vidal, F. X. G. (2015), "*Rankings, impacto científico y sistemas universitarios*",
16
17 Monografías 2015, CRUE, Universidades Españolas, available at:
18
19 <http://www.crue.org/Documentos%20compartidos/Publicaciones/Monograf%C3>
20
21 [%ADas/RANKING_XavierGrau.pdf/](http://www.crue.org/Documentos%20compartidos/Publicaciones/Monograf%C3) (accessed 06 January 2016).
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Self-perceived employability in Spain

Abstract

Purpose

The purpose of this paper is to validate in Spain the Self-perceived Employability Scale (SPE, Rothwell *et al.*, 2008) and explore its relationship with sociodemographic variables. The SPE is an employability scale designed to examine undergraduates' expectations and self-perceptions of employability. The SPE includes an internal and external dimensions of employability and has been satisfactorily tested in a variety of contexts.

Design/methodology/approach.

The sample comprised 1502 Spanish undergraduate students from a broad range of subject areas. Confirmatory Factor Analyses (CFA) and Exploratory Factor Analyses (EFA) were conducted. Finally the Spanish-SPE (S-SPE) was studied in relation to a set of demographic variables.

Findings/implications

The results revealed similar findings to those reported by Rothwell *et al.* (2008), namely four factors labeled: the external labor market's demand for people in my subject field, my confidence in my skills and abilities, the status and credibility of my field of study and my engagement with my studies and academic performance. The external and internal employability dimensions were obtained by forcing a two-factor solution. Men scored higher than women in the S-SPE; science students scored higher than arts and humanities undergraduates and students with higher perceived income levels scored higher than those with lower perceived income levels.

Originality/value

The S-SPE can be used with Spanish speaking university students (Spanish being the second most widely spoken language in the world) and allows cross-cultural comparisons of undergraduates' self-perceived employability. The S-SPE may help guide the development of social policies and programs designed to enhance employability. It can be used with undergraduates as a diagnostic instrument in career counseling, and as a self-assessment instrument which will enable undergraduates to acquire a greater degree of self-knowledge in relation to their employability.

Keywords: Employability, Graduate employment, Undergraduate students.

Paper type: Research paper

1
2
3
4
5
6 Finding and then keeping a job is a major issue in most economies. As a result of the
7
8 general economic downturn, since 2008 unemployment rates have risen to 9.4 % in the
9
10 European Union (EU) and 22.1 % in Spain (European Commission Eurostat, 2015).
11
12 Unemployment rates among the youth population are particularly alarming in Spain,
13
14 where, in 2015, when the research field work described in this paper was carried out,
15
16 44.8 % (a figure twice as high as the EU mean) were unable to find a job (Organisation
17
18 for Economic Co-operation and Development , OECD, 2015).
19
20

21
22 In Spain, 29.4% of young people aged between 18 and 24 are university students
23
24 (Ministerio de Educación, Cultura y Deporte , MECD, 2015). However, having a
25
26 university degree does not guarantee employment, as is evidenced by the fact that
27
28 19.2% of those that graduated in 2010 were unemployed in 2014 (Instituto Nacional de
29
30 Estadística , INE, 2015).
31
32

33
34 High unemployment rates among young university graduates reflect how hard it
35
36 is for this population to find a job, and point to the need to help and support them in this
37
38 undertaking (Lantarón, 2014). Even those Spanish graduates who do find employment
39
40 claim that their university studies failed to provide them with the skills necessary to
41
42 seek, find and hold down a job (Michavilla *et al.*, 2016). Accordingly, the measures
43
44 taken by universities to promote employability seem insufficient (Lantarón, 2014), with
45
46 undergraduates failing to receive the help they require to become employable.
47
48
49
50
51
52

1
2
3 In order to redress this problem and provide the support materials required to
4 design more effective employability improvement strategies, our aim is to validate a
5 brief questionnaire for measuring students' employability. This instrument will help fill
6
7 the existing gap in empirical research into undergraduate employability in Spain, since,
8
9 to date, this concept has mainly been studied either at a theoretical level or among the
10
11 employed population (Alvarez *et al.*, 2017, Qenani *et al.*, 2014).
12
13
14

15 16 ***Employability as a concept*** 17

18
19 The concept of employability is used in different contexts and often has more than one
20
21 meaning (Alvarez *et al.*, 2017; Forrier *et al.*, 2015). Rothwell (2015) identified four
22
23 perspectives from which employability is studied. The first is the political perspective,
24
25 focused on reducing unemployment and the social disadvantages it entails. This is the
26
27 perspective adopted by modern-day governments, which have promoted the notion of
28
29 employability linked to inclusion and skills development in the labor market (Felstead,
30
31 2013; Tymon, 2013). The principal limitation of this approach is that a focus on
32
33 employability has potentially distracted from job preservation (eg. from offshoring), job
34
35 creation and job sustainability (Kochan, 2012; Rothwell, 2015). The second perspective
36
37 is the educational one, which focuses on graduates' access to the labor market following
38
39 the rapid increase in their numbers since the late 20th century. This perspective
40
41 emphasizes the role of employability in the curriculum. While this approach is well
42
43 developed in other countries (Pegg, *et al.*, 2012), it is relatively undeveloped in Spain.
44
45 The third perspective is that of human resource management, which, somewhat
46
47 controversially, focuses on employer-led employability strategies to enable individuals
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 to sustain their careers in the light of increased job instability and insecurity (Nauta *et*
4 *al.*, 2009). Finally, the fourth perspective is the individual one, which focuses on each
5 person's own capacity to find and keep a job of an appropriate level.
6
7
8
9

10 Within the individual perspective, three main approaches can be identified in the
11 literature: competence-based employability, trait-based individual employability and
12 self-perceived employability. The competence-based employability approach (De Vos
13 *et al.*, 2011) analyzes the skills and abilities which facilitate job-finding opportunities.
14 The trait-based individual employability approach (Fugate and Kinicki, 2008) refers to
15 proactive attitudes adopted by individuals when looking for and seeking to hold onto a
16 job. Finally, the self-perceived employability approach focuses not just on internal
17 personal factors related to one's perception of one's own capacities and skills for finding
18 a job, but also on structural or external factors, such as the individual's perception of the
19 impact of the external employment market and the importance of their qualifications or
20 profession when trying to find a job. As a result of this twofold dimension (internal and
21 external), the self-perceived employability approach is the most comprehensive of those
22 developed within the individual perspective. The internal and external dimensions
23 interact with each other, since the perception of one's own capacities and skills impacts
24 how the external dimension is viewed, and the perception of the external market
25 influences the perception of one's own capabilities (Batistic and Tymon, 2017).
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47

48 ***Measuring student self-perceived employability***

49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 Within an area of research which has grown rapidly over the last decade, a number of
4 psychometrically sound measures of student self-perceived employability have
5 emerged. Initially these were derived from research in relation to the employed
6 population. Rothwell and Arnold (2007) developed a 16-item questionnaire based on a
7 quadrant-type theoretical model with the dimensions: personal attributes, occupational
8 attributes, and the internal and external labor markets. An exploratory factor analysis
9 with a sample of professional workers suggested that the measure was distinct from
10 other variables, was potentially psychometrically sound ($\alpha = .83$) and had the potential
11 to be used either as one whole scale or as two separate ones: external employability and
12 internal employability.
13
14
15
16
17
18
19
20
21
22
23
24

25 For our purposes, we have translated a scale developed in a second empirical
26 study (Rothwell *et al.*, 2008) conducted with 344 undergraduates. The theoretical
27 conception of the study once again included an internal dimension, self-beliefs (D1),
28 and an external dimension, the prevailing state of the external labor market (D2). The
29 authors added two new dimensions related to the undergraduate sample: the impact that
30 the university's reputation (brand image) might have on a student's employability
31 perception (D3) and the impact of the student's particular field of study (D4). In this
32 case, from the four dimensions and their interactions, an 8-component theoretical model
33 emerged (see fig 1). Components are measured/evaluated by two items and are as
34 follows: first component, my engagement with my studies and academic performance
35 (interaction between dimensions D1 and D3); second component, my perception of the
36 strength of the university's brand (principal component of dimension D3); third, the
37 reputation my university has within my field of study (interaction between dimensions
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 D3 and D4); fourth, the status and credibility of my field of study (principal component
4 of dimension D4); fifth, the external labor market's demand for people in my subject
5 field (interaction between dimensions D4 and D2); sixth, my perception of the state of
6 the external labor market (principal component of dimension D2); seventh, my
7 awareness of opportunities in the external labor market (interaction between dimensions
8 D2 and D1); and finally, eighth, my confidence in my skills and abilities (principal
9 component of dimension D1).

10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Figure 1 about here

An exploration of the student self-perceived employability scale's factor structure once again confirmed the existence of two factors, broadly related to external ($\alpha = .76$) and internal ($\alpha = .66$) employability. The first was related to the respondent's perception of the state of the external labor market, the perception of the strength of the university's brand and the status and credibility of their field of study. The second was related to self-belief (i.e. their confidence in their skills and abilities). The overall 16-item scale also had good internal reliability ($\alpha = .75$), and was further tested with a post-graduate sample (Rothwell *et al.*, 2009). A number of subsequent studies (for example, Engelberg and Limbach-Reich, 2012; Alibaygi *et al.*, 2013; Maiolo *et al.*, 2013; Di Fabio, 2014; Gamboa and Paixao, 2014; Creed and Gagliardi, 2015; Huang, 2015; Goodman and Tredway, 2016; Swigon, 2016;) have also satisfactorily tested the full SPE scale in a variety of contexts, in these cases Luxembourg, Iran, Italy, Portugal, Australia, Taiwan, South Africa and Poland. The measure appeared robust as in each case internal reliabilities (Cronbach, 1951) had been .7 or above for both the overall

1
2
3 scale and internal and external employability subscales (DeVellis, 2012). This
4 suggested that, having accounted for local factors, we should be able to build on the
5 studies described above in order to validate the employability scale with Spanish
6 undergraduates. There are numerous adaptations of parts of the scale (for example, in a
7 Spanish study, Caballero *et al.*, 2017), however the scope of most components of the
8 original scale suited our purpose well.
9
10
11
12
13
14
15

16
17 The aim of this present study was therefore to validate the Self-perceived
18 Employability Scale (SPE) in Spain (S-SPE). To this end, the scale's factor structure
19 was analyzed, along with its relationship with sociodemographic variables such as
20 gender, family income and field of knowledge. Our definition of employability is taken
21 as the ability to find and hold onto a job (Rothwell *et al.*, 2008). In relation to this aim,
22 our first hypothesis (H1) was that the factor structure of the S-SPE would be similar to
23 that described in the previous studies listed above. On the other hand, the Spanish
24 Employment Statistics Institute (INE, 2015) reported higher unemployment rates among
25 women and arts and humanities graduates than among men and those with a degree in
26 the sciences (respectively). Based on these data, our hypotheses were (H2) that men
27 would score higher for self-perceived employability than women and (H3) that science
28 students would score higher than arts and humanities undergraduates. In relation to
29 income level, after Gordon (2013), we expected that (H4) those with a high purchasing
30 power (i.e. individuals from more affluent backgrounds) would score higher than those
31 with a low purchasing power.
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Methods

The study utilized the 16-item employability scale by Rothwell *et al.* (2008, 2009), to which participants respond on a Likert-type scale with anchors from strongly disagree (1) to strongly agree (5). The four items related to the D3 and D4 components (“My perception of the strength of the university's brand” and “The reputation my university has within my field of study”, respectively) were excluded from our study as not being relevant in the Spanish context. In some countries (eg. the UK), the ranking of a university is considered carefully when students choose a university. However, although these university rankings have become more widely available in Spain since the implementation of the Bologna Plan in 2010 (Vidal, 2015), they are not yet an important factor in the choice of which university to attend. Spain has many public universities located all over the country, and it is precisely these public universities that are positioned highest on global league tables such as the Shanghai Ranking. The faculty selection and student admissions criteria are similar in all public universities and tuition fees vary only within a very narrow range established by the government and are similar all over the country. The criteria for obtaining research funding are also similar, and most funding is provided through competitive public calls for proposals. Only public funding obtained through competitive calls is taken into account on researchers’ résumés. As a result of all this, the standing of the public universities in which 87% of Spanish students study is recognised as similar all over the country. Spanish students do not, therefore, choose their university on the basis of the strength of its brand (D3) or its reputation (D4), but rather in accordance with its proximity to their place of residence (MECD, 2015). As a result of these factors, which are unique to the Spanish context, the

1
2
3 scale was simplified to 12 items. The relative irrelevance of institutional ranking had
4
5 been incorporated in other international contexts while using this scale, for example
6
7 Engelberg and Limbach-Reich (2012), whose Luxembourg-based study noted that
8
9 employability (p. 5): ‘ - should not be reduced to an erroneous measure of institutional
10
11 advancement’.

12
13
14 A sociodemographic questionnaire was also administered to gather information
15
16 about participants' gender and perceived family income level. Perceived family income
17
18 was divided into three levels. The lowest level was indicated by positive responses to
19
20 the items "*At this moment in time, we have trouble making ends meet*" and "*We have*
21
22 *enough to live on provided no unexpected expenses crop up*". Medium-level perceived
23
24 income was measured by "*We have enough to live on provided no unexpected expenses*
25
26 *crop up*" and "*We can go on holiday and treat ourselves every now and then*". Finally,
27
28 high perceived income level was reflected in the items "*We're in pretty good financial*
29
30 *shape*" and "*We have no financial problems*". Participants were also asked about their
31
32 field of study, in accordance with the category system commonly used in Spain
33
34 (MECD, 2015): Arts and Humanities; Social Sciences and Legal Studies; Engineering
35
36 and Architecture; Health Sciences; and Sciences.

37
38
39
40
41 In order to validate the factor structure of the employability construct, two
42
43 Confirmatory Factor Analyses (CFA) were conducted using the statistical package
44
45 AMOS, version 23.0 (Arbuckle, 2014). The CFAs aimed to validate the use of the scale
46
47 as a global measure of employability (1OFM), and, as a global measure of
48
49 employability made up of two factors (internal and external employability, 2O2FM).
50
51

1
2
3 Due to the ordinal scaling of the items and the large sample size, the ADF
4 (Asymptotically Distribution Free) method was chosen. The Chi-square index was used.
5 A non-significant Chi-square is considered indicative of good fit. However, as the Chi-
6 square value is totally dependent on sample size (Bentler and Bonnet, 1980), the CFI
7 (Comparative Fit Index), GFI (Goodness of Fit Index) and RMSEA (Root Mean Square
8 Error of Approximation) were also used. Models with CFI and GFI $\geq .95$ are considered
9 to have a good fit (Hu and Bentler, 1999), although .90 is acceptable (Hooper *et al.*,
10 2008). The RMSEA value should be equal to or lower than .08 in order to indicate good
11 fit (Hu and Bentler, 1999). Since the models analyzed were not found to have a good fit,
12 an Exploratory Factor Analysis (EFA) was carried out. Next, the EFA was repeated
13 with a forced two-factor solution in accordance with the findings of previous studies
14 regarding internal and external employability (for example., Rothwell *et al.*, 2008,
15 Huang, 2015; Goodman and Tredway, 2016;) Finally, using the SPSS™ V.23 statistical
16 package, mean employability scores were compared in accordance with gender,
17 perceived family income level and the participants' field of study.

18 ***Participants***

19
20 The sample comprised 1502 undergraduate students (60.1% women, Mean age = 20.32,
21 SD age = 2.13, Range age 18-29). There were more women than men in the sample
22 group, which reflects the general situation in Spanish public universities. For example,
23 during the 2014-15 academic year, 54.4% of university students were female (MECD,
24 2015). An effort was made to recruit participants from different fields of knowledge in a
25 representative distribution (MECD, 2015): arts and humanities (8.5% in our sample,
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51

1
2
3 9.5% in Spanish universities), social sciences and legal studies (32.2%, 46.6%),
4 engineering and architecture (23.5%, 20.2%), health sciences (29.2%, 17%) and
5 sciences (6.7%, 5.7%). Data were collected during class time in the autumn of 2015.
6
7

8
9 Students were assured that their answers would be treated with the utmost
10 confidentiality. They were also informed of the purposes of the research study and told
11 that the questionnaire was both voluntary and anonymous. None of the students in the
12 class at the time refused to participate. The research project was approved by the
13 Coordinating Committee for the Ethics of Biomedical Research in Andalusia (Spain).
14
15
16
17
18
19

20 **Findings**

21
22 In accordance with the theoretical framework, (Rothwell et al. 2008, 2009; *inter alia*),
23 two theoretical models were tested. The first evaluated the existence of a construct
24 called employability which is common to all 12 items (1OFM). The second model
25 evaluated aimed to test the existence of two factors (internal and external
26 employability) which form part of the common factor called employability (2O2FM).
27
28
29
30
31
32
33
34

35 The first model (1OFM), in which all 12 items were loaded on a single
36 employability factor (see fig 2) was found not to have an acceptable fit (Table 1). In the
37 second model (2O2FM, see fig 2), we tested whether external employability and
38 internal employability together formed a second-order factor called employability. As
39 shown in Table 2, none of the indexes indicated a good fit.
40
41
42
43
44
45
46

47 Figure 2 and Table 1 about here
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 Given that none of the models tested was found to have a good fit, an Exploratory
4 Factor Analysis was carried out to determine which structure best fitted the data
5
6 obtained. The use of this technique was justified by the KMO index of .80 and the
7
8 significance of the value obtained in Bartlett's sphericity test ($X^2(66) = 4534, p < .01$).
9
10 The EFA was carried out by means of principal component analysis (PCA). Using the
11
12 PCA, with varimax rotation, only factors with eigenvalues > 1 were retained (Kaiser,
13
14 1958). This procedure resulted in four factors which together explained 64% of the total
15
16 variance of the items. This value exceeds the criterion established by Hair *et al.* (2010).
17
18 Table 3 shows the factor loadings obtained. We used a cutoff value of .40 to establish a
19
20 solid factor loading coefficient (Swisher *et al.*, 2004).
21
22
23
24

25 The results (Table 2) revealed four factors equivalent to those proposed by
26
27 Rothwell *et al.* for undergraduates (2008) and postgraduates (2009), and confirmed by
28
29 other studies (Huang, 2015; Goodman and Tredway, 2016). The internal reliability
30
31 obtained for each factor is shown in Table 2. The two sub-scales which corresponded to
32
33 factors 3 and 4, each of which comprised 2 items, were not found to have good internal
34
35 reliability scores. The alpha indicators for factors 1 and 2 were acceptable, as was the
36
37 global employability scale indicator ($\alpha = .76$).
38
39
40

41 Table 2 about here
42
43

44 ***Internal and external employability*** 45

46
47 In order to determine whether these data could represent a two-factor structure (internal
48
49 and external employability), the EFA was repeated using the same procedure but
50
51 forcing a two-factor solution. The model explained 44.28% of the variance (see Table
52
53
54
55
56
57
58
59
60

1
2
3 3). With two exceptions, the items which theoretically represent internal employability
4 were grouped into factor 1 and those that represent external employability were grouped
5 into factor 2. The exceptions were Item 3 “A lot more people apply for my degree than
6 there are places available”, which was not grouped into either factor; and item 9, “I can
7 easily find out about opportunities in my chosen field”, which was grouped into external
8 employability, whereas in Rothwell *et al.* (2009) it formed part of the internal
9 employability factor. The internal reliability analysis revealed Cronbach's alphas of .81
10 and .64 for external and internal employability, respectively.
11
12
13
14
15
16
17
18
19
20
21

22 Table 3 about here

23
24 ***Employability and its relationship with gender, family income and field of knowledge***
25

26
27 Men and women's mean self-perceived employability scores were compared. The
28 results revealed that the mean self-perceived employability score obtained by men ($M=$
29 40.14) was higher than that obtained by women ($M=38.85$, $F(1, 1492) = 12.84$, $p <$
30 .001). As regards perceived family income, statistically significant differences were
31 found ($F= 9.98$, $p < .001$). The post-hoc Bonferroni correction analysis revealed that
32 these differences occurred between the lowest perceived income level (with participants
33 in this group perceiving themselves as less employable) and the highest perceived
34 income level.
35
36
37
38
39
40
41
42
43
44

45 Employability scores also differed in accordance with the field of knowledge of
46 participants' studies ($F(4, 1488) = 69.75$, $p < .001$). According to the Bonferroni
47 statistic, those studying arts and humanities ($M= 31.60$) had a lower level of self-
48
49
50
51

1
2
3 perceived employability than those studying degrees in other fields of knowledge. Next
4
5 in order were those studying social sciences and legal studies ($M= 38.41$) and sciences
6
7 ($M= 38.52$). Finally, students of engineering and architecture ($M= 41.29$) and health
8
9 sciences ($M= 41.31$) were the ones who considered themselves to be most employable.
10

11 12 **Discussion**

13
14
15 The results obtained from the administration of the 12-item Spanish Self-perceived
16
17 Employability Scale (S-SPE) to a sample of 1502 university students support the use of
18
19 this instrument in a Spanish context. Although the CFAs did not support the factor
20
21 structure proposed by Rothwell *et al.* (2008, 2009) and other previous studies, the two
22
23 EFAs conducted did support it. The first one revealed similar results to those obtained
24
25 by Rothwell *et al.* (2008, 2009), indicating that the Spanish scale comprises the same
26
27 four factors: state of external labor market, self-belief, my field of study, and my
28
29 engagement with my studies and academic performance. The second one pointed to the
30
31 existence of two dimensions: internal and external employability. We therefore suggest
32
33 that the Spanish Self-perceived Employability Scale (S-SES) is a useful and valid scale
34
35 for assessing self-perceived employability and internal and external employability
36
37 among Spanish university students.
38
39
40

41
42 As regards relationship between S-SPE and socio-demographic variables, male
43
44 students scored higher on the self-perceived employability scale than their female
45
46 counterparts. These findings are consistent with Spanish employment statistics. In
47
48 Spain, unemployment is lower among men than among women, with 17.8% of male
49
50
51

1
2
3 graduates under the age of 30 being unemployed, in comparison with 19.2% of female
4
5 graduates (INE, 2015).
6

7
8 Our results also indicate that students from families with higher perceived
9
10 income levels see themselves as more employable than those from families with lower
11
12 perceived income levels, supporting findings from previous SPE studies (Alibaygi *et*
13
14 *al.*, 2013; Maiolo *et al.*, 2013;). Their families may have their own companies or good
15
16 professional contacts which would facilitate networking and provide job opportunities
17
18 (Gordon, 2013). This is a potentially interesting area for further investigation in the
19
20 future: historically, employability research has focused on relatively disadvantaged
21
22 individuals. The impact of privilege and connections is relatively un-researched.
23
24

25
26 Finally, the results obtained with the S-SPE in the present study replicate those
27
28 reported by labor market surveys and employment rates: a higher percentage of health
29
30 science graduates are employed, and are therefore more employable, than their
31
32 counterparts from (in descending order) engineering and architecture, arts and
33
34 humanities, social sciences and sciences faculties (INE, 2015). Comparisons to the
35
36 wider employability literature are difficult as previous studies have tended to be based
37
38 on one field of study, such as business or psychology.
39
40

41 ***Conclusion***

42
43
44 Our study has a number of limitations. Firstly, the S-SPE was administered in a single
45
46 wave. Asking students to complete the questionnaire in a second wave would have
47
48 enabled us to verify the test-retest reliability. Secondly, no other self-perceived
49
50 employability instrument was used to verify the construct validity. Future research in
51
52

1
2
3 this area should include complementary self-perceived employability instruments that
4 have been validated in the Spanish context (for example, Alvarez *et al.*, 2017). Thirdly,
5 no additional non-demographic measures were included in the survey instrument to
6 check discriminant validity. Previous studies have covered a wide range of variables
7 including self-efficacy (Gamboa *et al.*, 2014; Di Fabio 2014); ambition and university
8 commitment (Rothwell *et al.*, 2008, 2009; Alibagyi *et al.*, 2013); and well-being and
9 career compromise (Creed and Gagliardi 2015). Testing discriminant validity is
10 therefore a research aim for the future. Finally, this is a cross-sectional study. A
11 longitudinal study gathering data some years after graduation would enable researchers
12 to determine whether undergraduates who perceived themselves as more employable
13 really were those most capable of finding a job in keeping with their qualification level
14 upon leaving university.
15
16
17
18
19
20
21
22
23
24
25
26
27
28

29
30 Nevertheless, the study does respond to two suggestions proposed by Rothwell
31 *et al.* (2009). Firstly, this study was conducted with a much larger sample (1502) of
32 undergraduates from all areas of knowledge. This has enabled us to confirm that the
33 instrument does indeed discriminate between students' self-perceived employability in
34 accordance with the real demands of the employment market. Secondly, the study
35 presented here is a replication of the scale in another country, which proves that the
36 measure is robust also in a very different social-labor context from that found in the
37 UK.
38
39
40
41
42
43
44
45
46

47 Our conclusion is that the Spanish Self-perceived Employability Scale (S-SES)
48 can be used as a general measure for assessing employability as part of basic research
49
50
51

1
2
3 activities. Being validated in different countries offers the advantage of enabling cross-
4
5 cultural comparisons, thus fostering advancement in the research field and improved
6
7 knowledge for planning public policies aimed at enhancing the employability of
8
9 university graduates. In this sense, in our opinion, the principal contribution made by
10
11 this paper is the applied nature of the instrument. Due to its brevity, the scale can be
12
13 used within the university environment itself as a screening instrument for detecting
14
15 those students most in need of help and guidance. It can also serve to establish a
16
17 baseline for the design of intervention programs in career counseling, and can be used
18
19 as a self-assessment instrument to enable undergraduates to acquire a greater degree of
20
21 self-knowledge in relation to their employability. As a concluding comment, we place
22
23 this research paper in the context of our wider research aims. These are to help enhance
24
25 the employability of young Spanish university graduates, among whom the
26
27 unemployment rates in our country are alarmingly high, a circumstance that
28
29 undoubtedly threatens the psychosocial well-being of those who represent both the
30
31 present and future of our society.
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

References

- Alibaygi A.H., Barani S., Karamidehkordi E. and Pouya M. (2013), “Employability determinants of senior agricultural students in Iran”, *Journal of Agricultural Science and Technology*, Vol. 15 No. 4, pp. 673-683.
- Alvarez, P., López-Miguens, M. J. and Caballero, G. (2017), "Perceived employability in university students: developing an integrated model", *Career Development International*, Vol. 22 No. 3, pp. 280-299.
- Arbuckle, J. L. (2014), *Amos (version 23)* [computer software]. Chicago, IBM: SPSS
- Batistic, S. and Tymon, A. (2017), “Networking behaviour, graduate employability: a social capital perspective”, *Education+ Training*, Vol. 59 No.4, pp. 374-388.
- Bentler, P. M. and Bonett, D. G. (1980), “Significance tests and goodness of fit in the analysis of covariance structures”, *Psychological Bulletin*, Vol. 88 No. 3, pp. 588-606.
- Caballero, G., Álvarez, P. and López-Miguens, M. (2017), Internal determinants of university student employability, construction and validation of scales ,in: *HEAd’17 (Higher Education Advances)Universitat 2017 , 3rd International Conference on Higher Education Advances*, 21-23 June, 2017, Valencia, Spain.
- Creed P.A. and Gagliardi R.E. (2015), “Career compromise, career distress and perceptions of employability: the moderating roles of social capital and core self-

- 1
2
3 evaluations”, *Journal of Career Assessment*, Vol. 23 No.1, pp.20-34.
4
5
6 Cronbach, L. J. (1951), “Coefficient alpha and the internal structure of tests”
7
8 *Psychometrika*, Vol.16 No.3, pp. 297 - 334.
9
10
11 DeVellis, R.F., (2012), *Scale development: Theory and applications, (3rd Edn)*,
12
13 *Thousand Oaks, California, Sage*.
14
15
16 De Vos, A., De Hauw, S. and Van der Heijden, B. I. J. M. (2011), “Competency
17
18 development and career success: The mediating role of employability”, *Journal of*
19
20 *Vocational Behavior*, Vol. 79 No. 2, pp. 438 - 447. Di Fabio, A. (2014),
21
22 “Intrapreneurial self-capital – a new construct for the 21st century”, *Journal of*
23
24 *Employment Counselling*, Vol. 51 No.3, pp. 98-111.
25
26
27
28 Engelberg E. and Limbach-Reich A. (2011), “After the Bologna reform: employability
29
30 of Bachelors in social and educational work in Luxembourg”, *Social Work*
31
32 *Education*, Vol. 31 No.4, pp. 807-818.
33
34
35
36 European Commission (2015), *Eurostat, Employment and unemployment, Labour Force*
37
38 *Survey, Total unemployed rate*, available
39
40 at:<http://ec.europa.eu/eurostat/web/lfs/data/main-tables/>(accessed 06 January
41
42 2017).
43
44
45
46 Felstead, A. (2013), “Skills at work”, *Society Now*, Vol. 16 Summer Issue, pp. 16–17.
47
48
49
50
51
52
53
54
55
56
57
58
59
60

- 1
2
3 Forrier, A. and Sels, L. (2003), “The concept employability: a complex mosaic”,
4
5 *International Journal of Human Resources Development and Management*,
6
7 Vol.3 No.2, pp. 102-124.
8
9
- 10 Forrier, A., Verbruggen, M. and De Cuyper, N. (2015), “Integrating different notions of
11
12 employability in a dynamic chain: The relationship between job transitions,
13
14 movement capital and perceived employability”, *Journal of Vocational Behavior*,
15
16 Vol. 89, pp. 56–64.
17
18
- 19 Fugate, M. and Kinicki, A. J. (2008), “A dispositional approach to employability:
20
21 Development of a measure and test of implications for employee reactions to
22
23 organizational change”, *Journal of Occupational and Organizational Psychology*,
24
25 Vol. 81 No 3, pp. 503–527.
26
27
- 28 Gamboa V., Paixao O. and Palma A.I. (2014), “Adaptabilidade de Carreira e
29
30 Autoeficácia na Transição para o Trabalho: O papel da Empregabilidade
31
32 Percebida: Estudo com Estudantes do Ensino Superior”, *Revista Portuguesa de*
33
34 *Pedagogica*, Vol. 48 No. 2, pp. 133-156.
35
36
37
- 38 Goodman S. and Tredway G. (2016), “Antecedents of perceived graduate
39
40 employability: a study of student volunteers in a community-based organization”,
41
42 *South African Journal of Industrial Psychology*, Vol. 41 No. 1, pp. 1315-1325.
43
44
- 45 Gordon, D.A.(2013), *Employability and Social Class in the Graduate Labour Market* ,
46
47 PhD. Thesis, Cardiff University, available at:
48
49 https://orca.cf.ac.uk/46473/1/dg_phd.pdf
50
51

- 1
2
3 Hair, J. F., Black, W.C., Babin, B. and Anderson, R. E. (2010), *Multivariate data*
4
5 *analysis* (7th Ed), Prentice Hall, New Jersey.
6
7
8 Hooper, D., Coughlan, J. and Mullen, M. (2008), “Structural Equation Modelling:
9
10 Guidelines for Determining Model Fit”. *Electronic Journal of Business Research*
11
12 *Methods*, Vol. 6 No. 1, pp. 53-60.
13
14
15 Hu, L. T. and Bentler, P. M. (1999), “Cutoff criteria for fit indexes in covariance
16
17 structure analysis: Conventional criteria versus new alternatives”, *Structural*
18
19 *Equation Modeling: a Multidisciplinary Journal*, Vol. 6 No. 1, pp. 1-55.
20
21
22 Huang, J. (2015), “Hardiness, perceived employability, and career decision self-efficacy
23
24 among taiwanese college students”, *Journal of Career Development*, Vol. 42 No.4,
25
26 pp. 311-324.
27
28
29 INE, Instituto Nacional de Estadística (2015), *Encuesta de Inserción Laboral de los*
30
31 *Titulados Universitarios EILU 2014*, Madrid: INE, available
32
33 at: <http://www.ine.es/prensa/np957.pdf>/(accessed 06 January 2016).
34
35
36
37 Kaiser, H. F. (1958), “The varimax criterion for analytic rotation in factor analysis”,
38
39 *Psychometrika*, Vol. 23 No. 3, pp. 187-200.
40
41
42 Kochan, T. A. (2012), “A jobs compact for America’s future”, *Harvard Business*
43
44 *Review*, March, available at: [http://hbr.org/2012/03/a-jobs-compact-](http://hbr.org/2012/03/a-jobs-compact-foramericas-future/ar/1/)
45
46 [foramericas- future/ar/1/](http://hbr.org/2012/03/a-jobs-compact-foramericas-future/ar/1/) (accessed 12 October 2016).
47
48
49 Lantarón, B. (2014), “La empleabilidad en la Universidad Española” *Journal for*
50
51 *Educators, Teachers and Trainers*, Vol. 5 No. 2, pp. 272 – 286.
52

1
2
3 Maiolo M.E, Zuffo R.G. and Cortini M. (2013), “Students’ academic performance and
4 employability: a study on Italian undergraduates”, *International Journal of*
5 *Learning in Higher Education*, Vol. 19 No. 4, pp. 49-60.
6
7

8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
MECD, Ministerio de Educación, Cultura y Deporte (2015), *Datos y Cifras del Sistema*
Universitario Curso 2014/15, Madrid: MECD, Available at:
<http://www.mecd.gob.es/dms/mecd/educacion-mecd/areas-educacion/universidades/estadisticas-informes/datos-cifras/Datos-y-Cifras-del-SUE-Curso-2014-2015.pdf> (accessed 10 December 2016).

21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
Michavilla, F., Martínez, J. M., Martín-González, M., García-Peñalvo, F. J. and Cruz-
Benito, J. (2016), *Barómetro de Empleabilidad y Empleo de los Universitarios en*
España, 2015 Primer informe de resultados, Observatorio de Empleabilidad y
Empleo Universitarios, (online) available at:
<https://gedos.usal.es/jspui/handle/10366/127374>, (accessed 06 October 2016).

32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
Nauta, A., Van Vianen, A., Van der Heijden, B., Van Dam, K. and Willemson, M.
(2009), “Understanding the factors that promote employability orientation: The
impact of employability culture, career satisfaction, and role breadth self-
efficacy”, *Journal of Occupational and Organizational Psychology*, Vol. 82 No.
2, pp. 233–251.

44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
OECD Organisation for Economic Co-operation and Development (2015), *Youth*
unemployment rate, available at:<https://data.oecd.org/unemp/youth-unemployment-rate.htm#indicator-chart/>(accessed 06 January 2017).

- 1
2
3 Pegg, A., Waldoock, J., Henty-Isaac, S. and Lawton, R. (2012), *Pedagogy for*
4
5 *employability*, Higher Education Academy, York, England.
6
7 Qenani, E., MacDougall N. and Sexton C., (2014), “An empirical study of self-
8
9 perceived employability: improving the prospects for student employment success
10
11 in an uncertain environment”, *Active Learning in Higher Education*, Vol. 15 No. 2,
12
13 pp. 199-213.
14
15
16 Rothwell, A. and Arnold, J. (2007), “Self-perceived employability: development and
17
18 validation of a scale”, *Personnel Review*, Vol. 36 No. 1, pp. 23–41.
19
20
21 Rothwell, A., Herbert, I. and Rothwell, F. (2008), “Self perceived employability:
22
23 Construction and initial validation of a scale for university students”, *Journal of*
24
25 *Vocational Behavior*, Vol. 73 No. 1, pp.1–12.
26
27
28
29 Rothwell, A., Jewell, S. and Hardie, M. (2009), “Self-perceived employability:
30
31 Investigating the responses of post-graduate students”, *Journal of Vocational*
32
33 *Behavior*, Vol. 75 No. 2, pp.152–161.
34
35
36 Rothwell, A. T. (2015), Employability, in Hartung, P. J., Savickas, M. L. and Walsh, W.
37
38 B. (Editors-in-Chief), *APA Handbook of Career Intervention: Vol. 2, Applications*,
39
40 Chapter 25, Vol. 2, pp. 337–350, APA: Washington DC.
41
42
43 Swigon M., (2016), “Self perceived employability of students of international relations
44
45 of University of Warmia and Mazury in Poland”, *International Journal of*
46
47 *Behavioural, Educational, Economic, Business and Industrial Engineering*, Vol.
48
49 10 No. 11, pp. 3299-3304.
50
51

1
2
3 Swisher, L. L., Beckstead, J. W. and Bebeau, M. J. (2004), "Factor analysis as a tool for
4
5 survey analysis using a professional role orientation inventory as an
6
7 example", *Physical Therapy*, Vol. 84 No. 9, pp. 784-799.
8
9

10 Tymon, A. (2013), "The Student Perspective on Employability", *Studies in Higher*
11
12 *Education*, Vol. 38 No. 6, pp. 841–856.
13
14

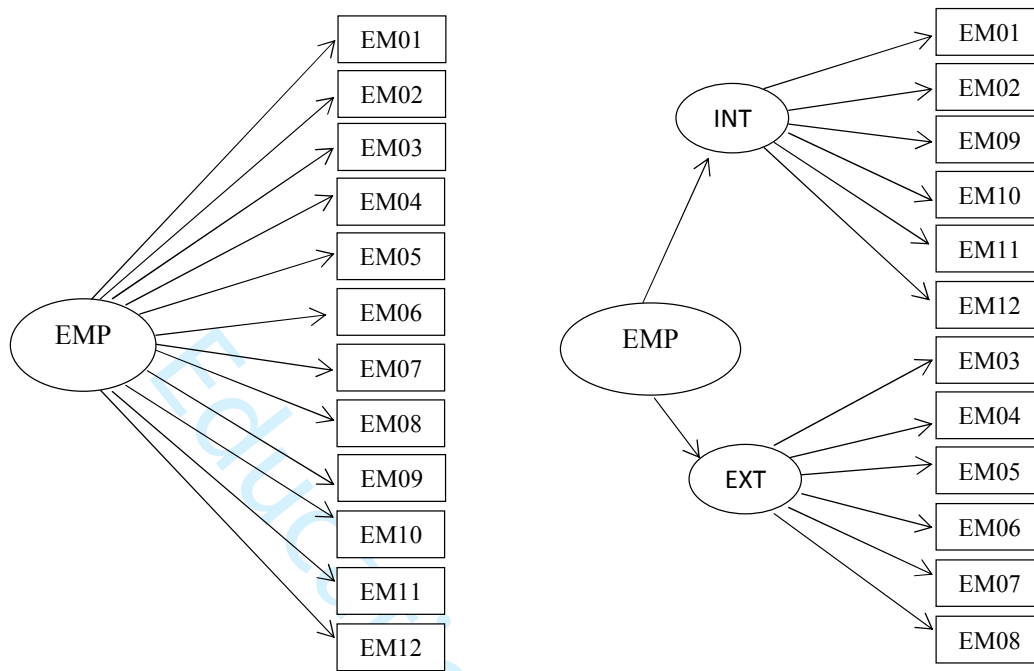
15 Vidal, F. X. G. (2015), "*Rankings, impacto científico y sistemas universitarios*",
16
17 Monografías 2015, CRUE, Universidades Españolas, available at:
18
19 <http://www.crue.org/Documentos%20compartidos/Publicaciones/Monograf%C3>
20
21 <http://www.crue.org/Documentos%20compartidos/Publicaciones/Monograf%C3>
22 [ADas/RANKING_XavierGrau.pdf/](http://www.crue.org/Documentos%20compartidos/Publicaciones/Monograf%C3) (accessed 06 January 2016).
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Figure 1. Student self-perceived employability

	My University (D3)			
Self Belief (D1)	1. My engagement with my studies and academic performance	2. My perception of the strength of the university's brand.	3. The reputation my university has within my field of study	My Field of Study (D4)
	8. My confidence in my skills and abilities	My ambition	4. The status and credibility of my field of study	
	7. My awareness of opportunities in the external labour market	6. My perception of the state of the external labour market	5. The external labour market's demand for people in my subject field	
	The state of the external labour Market (D2)			

Source: Rothwell *et al.*, (2008)

Figure 2. Theoretical Model Analysed



1OF: First Order Factor Model

2O2FM: Second Order and Two First Order
Factor Model

Table 1. Goodness-of-fit indexes of the employability models

	χ^2 (gl), p	<i>CFI</i>	<i>GFI</i>	<i>RMSEA</i>
1OFM	832.48(108), $p < .001$.49	.87	.067
2O2FM	1213,28 (55), $p < .001$.41	.79	.118

Note: $N = 1502$, **1OFM** = first-order model, **2O2FM** = second-order model (2 first order factors), χ^2 = Chi square statistic, *CFI* = Comparative Fit Index, *GFI* = Goodness of Fit Index, *RMSEA* = Root Mean Square Error of Approximation

Table 2. Varimax rotation of the four-factor solution for the employability scale, percentage of variance explained and internal reliability.

Items (see Appendix A)	Factor 1	Factor 2	Factor 3	Factor 4
EM8	.84			
EM9	.84			
EM5	.77			
EM7	.54			
EM6	.52		.41	
EM11		.81		
EM12		.81		
EM10		.74		
EM3			.83	
EM4	.43		.59	
EM1				.83
EM2				.78
Percentage of variance explained	29.74%	14.54%	10.79%	8.47%
Cronbach's Alpha	.79	.72	.45	.50

Note: F1: The external labor market's demand for people in my subject field. F2: My confidence in my skills and abilities. F3: The status and credibility of my field of study. F4: My engagement with my studies and academic performance.

Table 3. Varimax rotation of the two-factor solution for the employability scale, percentage of variance explained and internal reliability.

Items	F1	F2
EM5	.82	
EM8	.77	
EM9	.77	
EM6	.63	
EM7	.62	
EM4	.60	
EM10		.73
EM12		.67
EM11		.65
EM1		.54
EM2		.53
EM3	.22	.22
Percentaje of variance explained	29.47%	14.54%
Cronbach'sAlpha	.81	.64

Note: F1: External Employability. F2: Internal Employability

Appendix A. The self-perceived employability scale

	SPANISH	ORIGINAL ENGLISH VERSION	
7	EM1 Consigo buenas notas en mis estudios	I achieve high grades in relation to my studies	1a
9	EM2 Mis estudios son una prioridad para mí	I regard my academic work as top priority	1b
11	EM3 Hay muchas más solicitudes para entrar en mis estudios que plazas disponibles	A lot more people apply for my degree than there are places available.	4a
15	EM4 Mis estudios tienen un estatus social muy elevado	My chosen subject(s) rank(s) highly in terms of social status	4b
17	EM5 La gente que cursa mis estudios está muy demandada en el mercado laboral	People in the career I am aiming for are in high demand in the external labour market	5a
21	EM6 Mi formación es la mejor para ejercer una profesión percibida como muy deseable	My degree is seen as leading to a specific career that is generally perceived as highly desirable	5b
24	EM7 Hay una fuerte demanda de graduados en este momento	There is generally a strong demand for graduates at the present time	6a
27	EM8 Hay muchas ofertas de empleo en el área geográfica en la que estoy buscando	There are plenty of job vacancies in the geographical area where I am looking	6b
30	EM9 Puedo encontrar fácilmente oportunidades en mi área laboral	I can easily find out about opportunities in my chosen field	7a
32	EM10 Tengo las habilidades y competencias que los empleadores buscan	The skills and abilities that I possess are what employers are looking for.	7b
35	EM11 Normalmente confío en mi éxito cuando acudo a procesos de selección de personal o a entrevistas de trabajo	I am generally confident of success in job Interviews and selection events	8a
40	EM12 Tengo habilidades y experiencia suficientemente buenas como para encontrar trabajo	I feel I could get any job so long as my skills and experience are reasonably relevant	8b