

University contribution to developing generic competences and employment status after graduation: a mediated model

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Abstract

In this study, we analyze whether the university contribution to the development of generic competences is related to the employment status of graduates six months after graduation. Specifically, we propose that there are two mediating mechanisms in the relationship: 1) a sequential mechanism that involves two mediators: the generic competences acquired by students and their core self-evaluations; and 2) a simple mediating mechanism that involves only the generic competences acquired. We tested the research model in a sample of 303 students from a Spanish university. We collected information when students were about to complete their degrees and six months after graduation. Results supported the sequential indirect effect proposed via generic competences and core self-evaluations.

Keywords: *University; generic competences; employment; core self-evaluations; mediation.*

1. Introduction

Generic competences are a form of human capital that increases individuals' employability (Future Work Skills, 2020, Tomlinson & Holmes, 2017). As such, with the goal of fostering the employability of university graduates, the European Higher Education Area has promoted the development of generic competences in university education.

In this study, we analyze whether Universities' Contribution to the Development of Generic Competences (as perceived by students) (UCDGC) is related to employment status six months after graduation by means of two mediating mechanisms that operate sequentially: the generic competences acquired by students and their core self-evaluations (i.e. individuals' fundamental appraisals of their self-worth and capabilities) (Judge et al., 1997). Additionally, because generic competences are highly demanded in the workplace, we expect that generic competences will play a role as a simple mediating mechanism because graduates with more generic competences will have a greater probability of finding a job after graduation. The research model is depicted in Figure 1.

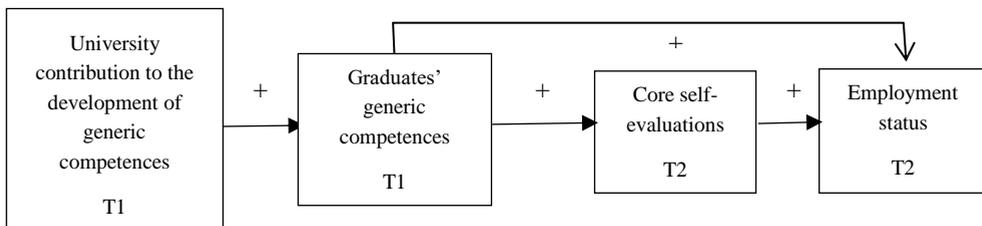


Figure 1. The hypothesized Research Model (Control variables are excluded for the sake of simplicity)

1.1. Generic competences and university contribution to developing generic competences

Apart from the knowledge and skills required to work in a specific field linked to an academic qualification, generic competences are critical in modern organizations, where adaptability, teamwork, and innovation are essential. Specifically, generic competences refer to the knowledge, skills, and abilities a person can apply in different contexts, regardless of the field of expertise (Barrie, 2006). Particularly, we focus on graduates' generic competences required by the labor market, as identified by Hernández-March et al. (2009): 1. oral and written communication skills, 2. problem solving skills, 3. time and resource management abilities, 4. capacity for teamwork, 5. continuous learning, ongoing education, and lifelong learning, and 6. capacity to take on responsibilities. Because these are essential competences sought by employers, university training programs should contribute to fostering them (Sipon, 2003). In this study, we hypothesize that UCDGC should translate into higher levels of graduates' generic competences (Hypothesis 1).

1.2. Generic competences and employment status: the mediating role of CSE

Core self-evaluations (CSE) refer to the fundamental appraisals individuals make about their self-worth and capacity to function in their environment (Judge et al., 1997). This construct encompasses self-esteem, self-efficacy, locus of control, and emotional stability (Judge et al., 1998). According to Rao (2010), generic competences contribute to building self-esteem and self-confidence (both important constituents of CSE). In addition, when people think they possess important competences needed for job success, they have a greater belief in their potential and feel responsible for their actions when entering the job market. Considering these arguments, we expect that graduates' generic competences will be positively related to graduates' CSE (Hypothesis 2). Finally, graduates' positive appraisals of their self-worth and capacity to function in the environment should motivate them to take action to plan, exert control, and exercise influence in their environments in order to achieve their (professional) goals (Erez & Judge, 2001). In fact, according to Rao (2010), self-esteem and self-confidence are important aspects of CSE that contribute to enabling professional advancement. Thus, we expect that graduates' CSE will be positively related to employment status after graduation (Hypothesis 3).

Considering all the arguments presented to justify Hypotheses 1 to 3, we expect that UCDGC will have a positive indirect effect on employment status after graduation via graduates' generic competences and CSE.

Additionally, because employers look for employees who have a variety of competences that foster adaptation, cost reduction, and productivity in modern markets, generic competences such as teamwork, problem-solving, or analytical ability are becoming crucial in recruitment and selection (Curtin, 2004). Thus, given that graduates with these competences are expected to be more attractive to employers, we hypothesize that graduates' generic competences will be positively related to their employment status after graduation (1. Employed; 0. Unemployed) (Hypothesis 4).

Considering the arguments presented for Hypotheses 1 and 4, we expect that UCDGC will also have an indirect "effect" on employment status via graduates' generic competences.

2. Method

2.1. Participants and Procedure

Students from a Spanish public university were contacted via email approximately two months before graduation (Time 1; T1). Those who voluntarily agreed to participate were informed that they would be contacted again approximately six months after graduation to respond to another survey (Time 2; T2). Participants were offered a free seminar of their choice (leadership, team building, or time management) in exchange for their participation.

Because we aimed to analyze the impact of university training on employment success, we excluded graduates who had obtained their jobs before graduation. We also ruled out participants who showed inattentive responses to two out of three instructed response items presented at T1 and T2 (e.g., “please mark the response option I agree”). The final sample consisted of 303 participants: 159 were unemployed (and had not had a job since graduation), and 144 had found a job within 6 months after graduation. The average age was 25.19 (SD = 5.21), and 72.2% were female. Finally, 62% had completed a bachelor’s degree, and 38% had completed a Master’s degree. All degree fields were represented: Social Sciences (52.5%), Health Sciences (27.1%), Humanities (11.2%), Natural Sciences and Mathematics (7.6%), and Engineering (1.7%).

2.2. Measures

UCDGC and participants’ generic competences were measured at T1 by means of six items that captured the key competences identified by Hernández-March et al. (2009): 1. oral and written communication skills, 2. problem solving skills, 3. time and resource management abilities, 4. capacity for teamwork, 5. continuous learning, ongoing education, and lifelong learning, and 6. capacity to take on responsibilities. First, we asked participants to indicate the degree to which the training received at the university had contributed to developing each of the generic competences. Afterwards, we asked participants to indicate the degree to which they had each of these generic competences. Items were responded to on a 5-point graded scale (1. Low degree, 5. High degree). Cronbach’s alpha were .83 and .74, respectively.

CSE and Employment status after graduation were measured at T2. To measure CSE, we used the Core Self-Evaluations Scale developed by Judge et al. (2003). The scale consists of 12 items (e.g., “I am confident I will get the success I deserve in life”) that are responded to on a 6-point Likert scale (1. Strongly Disagree, 6. Strongly Agree). Cronbach’s alpha was .86. Employment status after graduation was measured by asking graduates whether they had been employed since graduation. If graduates responded that they had been employed since graduation, we asked them when they got their jobs. Those who were employed in a job obtained after graduation were classified as “1. Employed”. Graduates who reported that they had never been employed after graduation (despite having looked for a job) were classified as “0. Unemployed”. As we mentioned earlier, those who had obtained their jobs before graduation were excluded because we were interested in seeing the impact of the university training after completing the degree.

2.3. Analysis

The proposed research model was tested by means of path analysis using Mplus 8. Considering that employment status is a binary outcome, we fitted a probit model using Weighted Least Square Mean and Variance adjusted (WLSMV) estimation methods (see

Muthén & Asparouhov, 2015). Because indirect effects do not follow a normal distribution, we tested for significance of indirect effects by means of Monte Carlo simulation, which provides good Type I error rates and statistical power (Tofighi & MacKinnon, 2016) (<https://amplab.shinyapps.io/MEDMC/>). Given that our hypotheses were directional (all the relationships are expected to be positive), we carried out one-tail tests (Cho & Abe, 2013), which are often justified in mediation research (Preacher et al., 2010). In addition, we controlled for several relevant variables: gender (0. Female; 1. Male), age, educational level (0. Bachelor; 1. Master), social class (1-4), and degree field (by creating four dummy variables -Engineering was the referent).

3. Results

Table 1 shows the descriptive statistics and correlations among the study variables. To keep the model simple, control variables were introduced as predictors of the mediators and the outcomes only when they showed statistically significant correlations with a particular mediator and/or outcome.

Table 1. Means, Standard Deviations, and Correlations among variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Age	25.19	5.22	—										
2. Social Class	2.63	.74	-.15*	—									
3. Educat. Level	.38	.49	.29**	.02	—								
4. Gender	.27	.44	-.02	-.09	.11	—							
5. Humanities D1	.11	.32	-.11	-.11	-.17**	.02	—						
6. Nat. sciences D2	.08	.27	-.06	.01	.06	.08	-.10	—					
7. Health D3	.27	.45	-.05	.05	-.08	-.08	-.22**	-.18**	—				
8. Soc. Sciences D4	.52	.50	.13*	.02	.15*	-.01	-.37**	-.30**	-.64**	—			
9. UCDGC T1	3.56	.71	-.10	.03	-.07	.03	-.09	-.02	-.03	.10	—		
10. Generic Comp. T1	4.19	.48	.07	.03	.01	-.14*	-.07	-.11	.09	.03	.25**	—	
11. CSE T2	4.21	.74	-.03	.18**	-.00	.01	-.12*	-.13*	.11	.04	.18**	.34**	—
12. ES T2	.48	.50	-.05	.04	.01	.02	.00	-.10	.05	.02	.11	.07	.17**

Note. *p < .05; ** p< .01. D=Dummy; UCDGC= University contribution to development of generic competences; ES=Employment Status; CSE= Core Self-Evaluations; SD=Standard deviation, T1=Time 1; T2=Time 2.

The proposed model (Figure 1) showed satisfactory fit to the data ($\chi^2(9) = 12.44, p > .05$; RMSEA = .04; CFI = .95; TLI=.91). The results obtained supported Hypotheses 1, 2, and 3 (see Table 2). The UCDGC was positively related to the level of generic competences (B= .192; p>.001), which in turn was positively related to CSE (B=.504; p<.001), which in turn

was positively related to employment status ($B=.244$; $p<.01$). The indirect effect of UCDGC on employment status via generic competences and CSE was .024 (.192*.504*.244). The 90% Monte Carlo confidence interval was [0.006, 0.046]. Because zero is not included in the interval, the indirect effect was statistically significant.

Table 2. Path analysis results.

Effect	B	SE	p	β
UCDGC T1 → Generic competences T1	.192	.04	<.001	.285
Generic Competences T1 → CSE T2	.504	.08	<.001	.327
CSE T2 → Employment Status T2	.244	.10	.008	.178
Generic Competences T1 → Employment Status T2	.046	.15	.382	.022

Note. Only control variables that showed significant correlations were modelled; UCDGC: University contribution to developing generic competences. B coefficients are unstandardized, and p values are one-tail. β refers to standardized coefficients

Contrary to our expectations, generic competences were not directly related to employment status after graduation ($B=.046$; $p>.05$). Thus, Hypothesis 4 was not supported. The indirect effect of UCDGC on employment status via generic competences (.192*.046= .009) was not statistically significant. The 90% Monte Carlo confidence interval was [-.039; .058].

4. Discussion

The results obtained show that university contribution to developing generic competences has a positive indirect “effect” on employment status six months after graduation. The mediating mechanism involves two sequential mediators: generic competences acquired according to students’ perceptions and core self-evaluations.

4.1. Theoretical implications

We show the importance of considering the interconnection between educational antecedents (UCDGP) and personal antecedents (generic competences acquired and CSE) of finding a job when young graduates enter the job market. In addition, we uncover one of the mechanisms through which university training that fosters the development of generic competences (a valued form of human capital) contributes to finding a job after graduation.

4.2. Practical Implications

Given the indirect “effect” of the university contribution to developing generic competences on employment status after graduation, universities and higher education institutions should

design and implement training programs that contribute to developing critical generic competences. This competence development can be promoted through different learning activities that should, ideally, involve active learning and be integrated into a framework that gradually increases their complexity (e.g., Bautista, 2016). However, young graduates can also acquire generic competences by other means (e.g., additional courses, internships, part-time jobs while studying). Thus, universities' career counseling services should discuss with students and graduates the best ways to improve critical generic competences. By increasing their competences, it is expected that their CSE will improve, and they will be more confident about their potential (even though career counselors should warn students about being overconfident – see Valls et al., 2020).

4.3. Limitations and Future Research

The present study has several limitations. First, UCDGC, generic competences, and CSEs were measured with self-reported scales using a single source (graduates). An objective or external measure of some of these variables, such as students' competences, would make a stronger contribution. Future studies should include these types of measures. Second, we only had two time points instead of the four that would represent the expected causal order. This is particularly troublesome for measures at T2 because finding a job after graduation could also improve graduates' CSE. Future research with more time points should contribute to disentangling these effects. Third, participants come from only one university, which limits the generalizability of our findings. Finally, the fact that generic competences acquired by students are not significantly related to the employment status after graduation suggests that some employers may not be assessing these generic competences (teamwork, time management) for selection purposes because they are difficult to assess. Thus, future research should include the employer's point of view.

4.4. Conclusion

Despite the aforementioned limitations, our study helps to uncover one of the mechanisms explaining why the university contribution to developing generic competences is related to a higher probability of finding a job after graduation.

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