

CAREER RESOURCES IN HIGHER EDUCATION: CHARACTERIZATION AND DIAGNOSIS OF PSYCHOEDUCATIONAL NEEDS

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Abstract

Hirschi and colleagues [1] propose a comprehensive framework to assess key predictors of career success based on meta-analytic research. Four types of career resources, defined as “anything that helps an individual attain his or her career goals” (p. 4), are identified as predictors of subjective and objective career success. Those resources integrate key predictors for objective and subjective career success and specified 13 dimensions that are well established in the international career literature as predictors of career success.

One crucial question arising from this theoretical proposal is to what extent different career resources can be fostered through e-learning, and what is the effect of such development? This study aims to contribute to responding to that question. A preliminary study was conducted to assess career resource needs among higher education students, in order to conceptualize and develop a distance career intervention program. For the diagnosis of needs, the Career Resources Questionnaire (CRQ) [2], adapted from Hirschi and colleagues [1], composed of twelve dimensions – Occupational Expertise; Job Market Knowledge; Soft Skills; Organizational Career Support; Study Challenge; Social Career Support; Career Involvement; Career Confidence; Career Clarity; Networking; Career Exploration; Learning –, was applied to 1898 students from the 1st, 3rd and 5th year of different graduation degrees of two Portuguese universities. Most participants identify themselves with the feminine gender (67.7%), and their ages range from 17 to 74 years old ($M = 23.33$, $SD = 8.52$). Part of the students is engaged in a paid professional activity (24.5%). The percentage of students with special educational needs is 1.8%.

Descriptive and inferential statistics of the collected data were computed in order to inform the intervention planning about: (i) the career resources with higher and lower scores among the total sample; (ii) the correlation between the different career resources dimensions; (iii) the potential needs related to singular characteristics (social and cultural background, course year, institution, professional experience, and special education needs). The obtained results indicated higher scores for the dimensions of Social Support, Study Challenge, and Course Involvement. Lower scores were identified in the dimensions of Market Knowledge, Career Exploration and Institutional Support. The CRQ dimensions were positively correlated with each other, which means an overall need for a homogeneous intervention across the dimensions was identified as relevant. Regarding singular characteristics, differences were identified according to course year and professional experience.

Keywords: career resources, distance career intervention, higher education, needs diagnosis.

1 INTRODUCTION

The stimulation of employment is a political concern of several countries and organizations. It represents one of the objectives of the 2030 agenda for sustainable development of the United Nations: “to promote inclusive and sustainable economic growth, full and productive employment and decent work for all” [3]. Labor market changes that occurred over the last few years, largely as a result of technological development and globalization have made job perspectives less defined and predictable over time, whilst the transitions between jobs tend to be more frequent and difficult [4]. Young adults who have just entered the labor market, even if graduates, are the ones who suffer the most, with higher unemployment rates [5]. In addition to the necessary structural measures, such circumstances imply an active career engagement to subsist in a labor market characterized by high instability, flexibility, uncertainty, and insecurity. This means that graduates are challenged to become active agents of their career from an early stage, in order to be able to explore the self and the environment, to develop the necessary competencies, and prepare for upcoming transitions, including, but not limited to, the

transition from university to work [6] [7]. Paradoxically, research has suggested that career resources remain underdeveloped among higher education students, which makes them ill-prepared for labor market requirements [8].

A broader conceptualization of employability also questions the role that different life contexts play in promoting employability. For example, the lack of institutional investment in this area may be at the basis of a more reactive than proactive attitude from graduates regarding university-to-work transition [9]. Indeed, despite the evident concern related to employability outcomes from Higher Education institutions, initiatives in this area remain very much focused on instrumental and sporadic strategies [7]. Furthermore, although many individuals could benefit from career interventions, only a minority seek that type of service. This gap between the need and actual help-seeking can have several reasons, namely the prevalence of stigma, difficulty in matching timetables or physical distances or financial costs [10]. Such a scenario does not attend to the need for comprehensive and accessible interventions for people whatever their economic, social, cultural, educational, or personal situations that scientific and political communities have appealed for, in order to foster employability. In this context, developing an online intervention may be a way to reach a broader audience.

The study presented here is framed by the career resources framework developed by Hirschi and colleagues [1]. Thirteen dimensions were identified in the career resources model applied to Higher Education students: Occupational Expertise; Job Market Knowledge; Soft Skills; Organizational Career Support; Study Challenge; Social Career Support; Career Involvement; Career Confidence; Career Clarity; Networking; Career Exploration; and Learning. Career resources are here defined as “anything that helps an individual attain his or her career goals” (p. 4, [1]). Taking this framework, a study of characterization and diagnosis of psychoeducational needs that will inform an online career intervention program, will be presented. The efficacy of such an intervention program will then contribute to developing knowledge about the extent to which career resources can be fostered through a distance career intervention and about the effect of such development on students’ career success.

2 METHODOLOGY

2.1 Participants

Participants are 1898 students from the 1st, 3rd and 5th year of different graduation degrees at two public Portuguese universities. Most participants identify themselves with the feminine gender (67.7%), and their ages range from 17 to 74 years old ($M = 23.33$, $SD = 8.52$). Part of the students is engaged in a paid professional activity (24.5%). The percentage of students with special educational needs is 1.8%.

2.2 Measure

The Career Resources Questionnaire (CRQ [2]), composed of twelve dimensions: Occupational Expertise ($\alpha = .80$); Job Market Knowledge ($\alpha = .90$); Soft Skills ($\alpha = .91$); Organizational Career Support ($\alpha = .92$); Study Challenge ($\alpha = .92$); Social Career Support ($\alpha = .84$); Career Involvement ($\alpha = .89$); Career Confidence ($\alpha = .92$); Career Clarity ($\alpha = .94$); Networking ($\alpha = .80$); Career Exploration ($\alpha = .93$); Learning ($\alpha = .89$), with a total of 38 items, ranging from 1 (completely false) to 5 (completely true).

2.3 Procedures

Data gathering was preceded by the authorization of both universities’ competent ethics committees. Participation was informed and voluntary. Therefore, not only there are no expected negative outcomes to participants, but there are possible secondary advantages. Thus, the ethics guidelines for educational research were carefully considered and implemented in this study [11].

Data were gathered online, during the academic year of 2021/2022 in the universities. Authorizations were obtained from deans and other pertinent members of the universities’ hierarchy. Program directors played a pivotal role in disseminating the link to the questionnaire, as well as allowing researchers to access classes to invite students to participate in the study.

Descriptive statistics were used to present the results. We hypothesized that career resources might differ according to students’ academic year, professional status and self-identified special educational needs status, therefore differences among groups were tested. This was particularly relevant as these results were the basis for the development of an intervention program that aims to be as inclusive as

possible, and is particularly concerned with students who may have particular challenges in the transition to the workplace.

3 RESULTS

3.1 Descriptive statistics

An overall analysis of the means and standard deviations of results for each scale, and organized according to the course year, professional activity and self-identified special education need status of students, can be analyzed in table 1. It is possible to identify a trend for growth in some career resources according to the course year the students frequented – for example, occupational expertise and soft skills seem to increase with the level of education, and are higher among working participants. The lowest average score pertained to networking among first- and second-year students (M=2.65; SD = 1.02). On the opposite side, Social Career Support obtained the highest scores, particularly among fifth or more years students (M=3.75; SD = .82).

Table 1. Descriptive statistics of CRQ scores.

Variables	Course Year						Professional Activity				Special Education Needs			
	1 st and 2 nd year (n= 914)		3 rd year (n= 670)		5 th or more years (n=313)		Yes (n=465)		No (n=1433)		Yes (n=34)		No (n= 1816)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
OE	2.98	.80	3.07	.69	3.20	.71	3.37	.73	2.94	.73	3.04	.74	3.05	.75
JMK	2.70	.91	2.70	.85	2.81	.91	3.15	.87	2.58	.85	2.75	.85	2.71	.89
SS	3.24	.87	3.44	.84	3.54	.82	3.52	.82	3.31	.86	3.25	.98	3.36	.85
OCS	3.14	.90	2.71	.92	2.95	.95	2.89	.98	2.98	.92	2.84	1.07	2.96	.93
SCh	3.65	.79	3.37	.83	3.67	.85	3.66	.85	3.52	.81	3.38	.89	3.56	.82
SCS	3.71	.82	3.69	.80	3.75	.82	3.68	.82	3.72	.81	3.53	.95	3.71	.80
CInv	3.37	.96	3.45	.93	3.43	.94	3.49	.95	3.38	.95	3.07	.97	3.41	.95
CConf	3.26	.82	3.30	.77	3.31	.79	3.29	.81	3.28	.79	3.13	.95	3.29	.79
CCI	3.48	1.03	3.42	.98	3.44	1.01	3.81	.92	3.33	1.01	3.25	1.08	3.46	1.01
CExp	3.04	.86	3.01	.85	3.08	.84	3.16	.99	2.64	.99	3.03	1.09	2.76	1.02
Ntw	2.65	1.02	2.81	.98	3.02	1.04	3.30	.84	2.95	.84	3.15	1.01	3.03	.85
Lear	3.29	.88	3.35	.83	3.48	.86	3.76	.79	3.21	.84	3.43	1.08	3.34	.85

OE – Occupational Expertise; JMK – Job Market Knowledge; SS – Soft Skills; OCS – Organizational Career Support; SCh – Study Challenge; SCS – Social Career Support; CInv – Career Involvement; CConf – Career Confidence; CCI – Career Clarity; Ntw – Networking; CExp – Career Exploration; Lear – Learning

The descriptive statistics was suggestive of differences among groups under analysis, which led us to perform statistical testing to verify those hypotheses.

Significant differences were found relative to the respondents' academic year in six of the scales under analysis, through a One Way Anova followed by post hoc tests to identify the differences. In particular, Occupational Expertise was found to differ (F (2,1894)= 10.806, $p = .000$; $\eta^2 = .011$) between 1st and 3rd years; 1st and 5th years; 3rd and 5th years (Sheffé test). Soft Skills differed (F (2,1894)= 17.926, $p = .000$; $\eta^2 = .019$) between the 1st and 3rd years and between the 1st and 5th years. Organizational Career Support differed (F (2,1894)= 42.696, $p = .000$; $\eta^2 = .043$) between 1st and 3rd years; 1st and 5th years; and 3rd and 5th years students. Study Challenge differed (F (2,1894)= 26.415, $p = .002$; $\eta^2 = .027$) between 1st and 3rd years; and 3rd and 5th years students. Career exploration differed (F (2,1894)= 16.648, $p = .000$; $\eta^2 = .017$) between 1st and 3rd years; 1st and 5th years; 3rd and 5th years students. Lastly, Learning differed (F (2,1894)= 5.395, $p = .005$; $\eta^2 = .006$) between 1st and 5th year students.

These differences favored students of the highest degrees, signaling a tendency for increased development over the course of training, for subscales Occupational Expertise, Soft Skills, and Learning. The direction of differences was not linear in the cases of Organizational Career Support, Social Career Support and Career Exploration – in these cases, results were lowest among third-year students.

Differences were also identified among participants according with professional status in nine of the subscales, by using a T-test: Occupational Expertise – $t(784.84) = 10.797, p = .000$; Cohen's $d = .577$; Job Market Knowledge – $t(775.188) = 12.409, p = .000$; Cohen's $d = .471$; Social Support – $t(819.743) = 4.799, p = .000$; Cohen's $d = .250$; Study Challenge – $t(762.318) = 3.060, p = .002$; Cohen's $d = .167$; Career Involvement – $t(785.747) = 2.298, p = .022$; Cohen's $d = .123$; Career Clarity – $t(1986) = 9.037, p = .000$; Cohen's $d = .482$; Networking – $t(791.459) = 7.714, p = .000$; Cohen's $d = .410$; Career Exploration – $t(786.418) = 9.798, p = .000$; Cohen's $d = .523$; and Learning – $t(835.551) = 12.833, p = .000$; Cohen's $d = .662$. For all these dimensions, working students obtained higher scores than non-working students.

Finally, concerning the students' self-reported special needs status, T-test was performed and significant differences were found concerning career Involvement – $t(34.178) = -2.012, p = .052$; Cohen's $d = -.358$, favouring students with no special education needs reported.

3.2 Correlations

The analysis of the correlations matrix between all the subscales revealed a high level of correlation among all the scales under analysis ($p < .01$), as can be verified in table 2. The correlations ranged mainly between weak and moderate. The strongest correlations (between .40 and .60) were found between Occupational Expertise and the dimensions of Social Support, Career Clarity, Career Exploration and Learning; Job market knowledge and the dimensions of Career Exploration, Networking and Learning; Social Support and Career Confidence; Organizational Career Support and Study Challenge; Study Challenge and Career Involvement; Career Confidence and the dimensions of Career Clarity, Career Exploration and Learning; Career Clarity and the dimensions of Career Exploration, Networking and Learning; Career Exploration and the dimensions of Networking and Learning; And Networking and Learning.

Table 2. Correlations matrix among subscales.

Career Resources	OE	JMK	SS	OCS	SCh	SCS	CInv	CConf	CCI	CExp	Ntw	Lear	Mother Educ	Father Educ
OE	--													
JMK	..497**	--												
SS	..446**	..387**	--											
OSC	..202**	..245**	..136**	--										
SCh	..334**	..237**	..219**	..572**	--									
SCS	..244**	..205**	..245**	..329**	..391**	--								
CInv	..329**	..187**	..160**	..357**	..523**	..368**	--							
CConf	..382**	..368**	..430**	..290**	..336**	..394**	..346**	--						
CCI	..411**	..381**	..280**	..242**	..356**	..278**	..364**	..565**	--					
CExp	..437**	..465**	..312**	..289**	..319**	..348**	..352**	..509**	..560**	--				
Ntw	..368**	..584**	..271**	..180**	..183**	..181**	..239**	..363**	..416**	..589**	--			
Lear	..480**	..479**	..381**	..254**	..389**	..278**	..370**	..478**	..548**	..613**	..597**	--		
Mother Educ	-.032	-.032	..035	-.010	-.035	..048*	-.063*	..019	-.038	-.013	-.047*	-.033	--	
Father Educ	-.065*	-.034	..048*	-.019	-.065*	..068**	-.077*	..037	-.088*	-.008	-.059*	-.061*	..602**	--

OE – Occupational expertise; JMK – Job Market Knowledge; SS – Soft Skills; OCS – Organizational Career Support; SCh – Study Challenge; SCS – Social Career Support; CInv – Career Involvement; CConf – Career Confidence; CCI – Career Clarity; CExp – Career Exploration; Ntw – Networking; Lear – Learning; Mother Educ – Mother Educational Level; Father Educ – Father Educational Level.

4 DISCUSSION AND CONCLUSIONS

In a time of transition and uncertainty in the job market [5], higher education graduates are increasingly called to support their graduates to prepare for this scenario [12], enhancing the need to develop transversal and career management competencies along with the academic competencies related to their degrees [6-7].

The career resources model [1] can be of great use in this context, as it encompasses not only aspects related with the subjects themselves but also acknowledging – as is indispensable – that employability does not rest solely on the individual's personal assets. Yet, it can be actively promoted. In this

perspective, and considering the gap between program seeking behaviours and program needs [10], and taking into account that social aspects, time availability among other constraints may limit the accessibility of a career interventions to those most in need. We sought to analyse the needs of students from two Portuguese public universities with different profiles. We intend to develop a distance learning based career resources program that can help meet those needs and be (somewhat) tailored to the specific needs of different groups of students.

Data analysis showed a significant degree of correlation between the questionnaires' subscales. This fact led us to avoid creating profile programs, tailored by including or excluding specific career resources.

The analysis of the scales' scores led us to select nine subscales as areas for intervention: Occupational Expertise, Job Market Knowledge, Soft Skills, Organizational Career Support (from the HE institution), Career Confidence, Career Clarity, Career Exploration, Networking, and Learning. Career Involvement, Study Challenge, and Social Career Support were the highest scored subscales, which led us to not include those career resources in the program being developed.

We were particularly concerned about two subsets of students, who, for different reasons, may be particularly hard to reach through face-to-face interventions, and therefore, should be considered the priority when developing an eLearning intervention concerned with inclusivity – working-students and students who self-identify as having special educational needs. The results confirmed there were some significant differences among these groups and other students, particularly relevant in the case of working-students. However, working students seem to have better career resources, potentially stemming from the added experience in job contexts than non-working students. Even then, they may have specific concerns and experiences, which, when shared in a social learning environment, may be particularly enriching to all participants in the project.

Among students who self-identify as having special needs, only one subscale had significantly different results to those of other students – Career Involvement. This was one of the dimensions which received better scores and therefore was not included in the program. Nevertheless, the program's general concern with inclusivity – time and place flexibility [13], motivation and involvement [14], and concern with accessibility of information, including the use of subtitles in all audio and video information will be considered as a way of ensuring the right of these students to be an integral part of the program and potentially gaining from it.

Numerous significant differences were found between students of earlier and later years of higher education. These differences further reinforce the need of creating activities with different levels of complexity. The levels of complexity were determined in terms of Bloom's revised model [15]: different levels of complexity will be considered when developing the activities: level one – activities aimed at remembering and understanding; level two – activities requiring application and analysis; and level three – activities requiring evaluation and creation. These different levels of complexity intend to ensure that all students find activities engaging.

The analysis here presented was instrumental to the development of an intervention program – Boost 4 Career – that will be provided freely in an online, distance learning setting. We expect this program to help reduce the gap between students who enrol in career intervention and students who can benefit from it [10], particularly aiming to be able to involve non-traditional students, such as working students and students who identify as having special educational needs. This analysis has also directed our efforts to tailoring the program to the specific needs of different groups of students, in order to concur for its inclusivity and potential social impact.

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