

Career planning, proactivity, self-employability, and labour market: undergraduates' perceptions

Pianificazione della carriera, proattività, Self-Employability e mercato del lavoro: percezioni di studenti universitari

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Abstract

The paper presents empirical research carried out at the university of Padova. It investigates the association between students' perceptions of the current state of the labour market, and students' self-perceived employability, career proactivity, career control and positional advantages. It also explores the students' career planning and its association with some contextual and personal predictors. 2.834 students took part in the survey. Findings show that students with a more positive vision of the labour market reported higher scores in self-perceived employability, career control, and less proactive career attitudes. Some implications are reported.

Keywords: undergraduates; career planning and control; proactivity; perceived employability; labour market.

Sintesi

L'articolo presenta una ricerca empirica svolta presso l'università di Padova. Indaga la relazione tra le percezioni degli studenti sullo stato attuale del mercato del lavoro e dell'employability percepita dagli studenti, la proattività, il controllo della carriera e i vantaggi delle posizioni. Esplora anche la pianificazione della carriera degli studenti e la sua relazione con alcuni predittori contestuali e personali. All'indagine hanno preso parte 2.834 studenti. I risultati mostrano che gli studenti con una visione più positiva del mercato del lavoro hanno riportato punteggi più alti in termini di employability percepita, controllo della carriera e attitudini alla carriera meno proattivi. Si riportano alcune implicazioni.

Parole chiave: studenti universitari; pianificazione e controllo della carriera; employability percepita; mercato del lavoro.

¹ Both authors contributed to the study conception and design. Concetta Tino wrote the following paragraphs: 2, 3, 4, 5, 6, 6.2 e 7. Monica Fedeli wrote paragraphs: 1, 6.1 e 8. All authors commented on the different versions of the manuscript.

1. Introduction

In recent decades, the challenge of career and life management has increased much more than ever for young generations due to globalization, technological developments, and unpredictable events. In this challenging scenario the role of higher education institutions (HEIs) becomes crucial not just for producing knowledgeable graduates with good academic standards, rather their main goal would be focused on adaptive graduates who would manage sudden and expected challenges (Levenson, 2020).

The fourth industrial revolution has generated high levels of competitiveness (Alaloul et al., 2020) giving rise to people's uncertain and boundaryless careers (Krouwel et al., 2019). Therefore, today, being employable means having up-to-date technical knowledge about their own working domain and transferable generic abilities, demonstrating openness and readiness to cross contextual and workplace boundaries, showing resilience to face changes (Froehlich et al., 2014).

Among scholars, the consideration of the importance of graduates' technical and non-technical competencies is quite common in order to better understand their employability process (Tomlinson, 2017), but also the necessity for students to become self-aware, more informed about the opportunities and demands in the labour market, in order to be ready to make the proper decision on their career (Qenani et al., 2014).

In line with Jackson and Tomlinson's research work (2020) and after considering the value of their measurement scales for investigating HE students' perceptions on the state of the labour market, students' perceived employability, proactivity, career control, positional advantage, and career planning, the researchers decided to develop the Italian version of the scales² to measure the Italian students' perceptions on the same components.

This paper, after providing a theoretical framework, presents the aims and the methodology sections, the results, making a comparison with Jackson and Tomlinson's work.

2. Theoretical background

In Italy, we often come across the phenomena of a misalignment between graduates' skills, and the skills required by the labour market, or *overeducation* as an individuals' strategy for having a greater chance of finding employment (Maiolo et al., 2013). In both of these cases, the risk for graduates is often not having a job that matches their education. Next to these challenges, the labour market does not offer well defined and permanent trajectories of career development but foresees career adaptability defined by Savickas (1997) as "the readiness to cope with the predictable tasks of preparing for and participating in the work role and with the unpredictable adjustments prompted by changes in work and working conditions" (p. 254). It refers to the ability to plan and adjust to changing career plans and unforeseen events. Becoming adaptable and ready to navigate a boundaryless career requires graduates to develop a new culture of work and careers, based not only on the idea of precariousness and a dynamic and multifaceted career (Akkermans et al., 2017), but also on the necessity to take more responsibility for their own career development (Haenggli & Hirschi, 2020). Therefore, employability as a category shifted from certain paid jobs to the

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capability of individuals to manage and control their own career is inevitably intertwined with other two aspects: labour market conditions and self-employability perceptions.

Students' labour market perceptions can be linked to the spheres of labour demands, job opportunities, and university-work transition. 60% of Italian graduates seem to have positive labour market perceptions relative to the flexibility of their work and correspondence between training and employment obtained, but are less satisfied about economic aspects, because it often happens that the job they obtain is less well paid compared to the quality of their professional profile (Malizia, 2016).

Job market demands, and the need for distinctiveness, pressure students to be ready to take part in a positional competition (Tomlinson, 2007). Italian students are often involved in internships, further studies, part-time work and other activities outside university, because they want to develop further hard and soft skills, becoming more competitive at local and international level.

Job insecurity can threaten a person's confidence in their employability. Therefore, the complexity of the labour market is also linked to the self-perceived employability category. It refers to the beliefs about the possibilities of succeeding in obtaining employment. It is related to "a current assessment of one's capacity to navigate the world of work in the future" (Rothwell & Arnold, 2007, p. 26), and is linked to "the perceived personal control over the vocational future and the belief about personal responsibility for constructing one's career" (Coetzee & Stoltz, 2015, p. 86). In recent years, research on students' self-perceived employability has increased (Tino, 2020; Vargas et al., 2018) as a consequence of the attention and pressure on universities to bring graduates closer to work. Significant attention was also registered within the Italian academic context where different studies have been carried out on students' employability and self-perceived employability (e.g. Boffo & Gioli, 2017; Tino, 2020). For example, Paviotti's study (2019) involving 30 students, underlines three levels of students' self-perceived employability: low (37%); medium (53%); high (3%). It highlights a gap between the university experience and the professional future perceived by students. In fact, HE students have "low awareness on how their own learning is meaningful to prepare them to act in the world of work" (ivi, p. 188). In addition, students seem to be aware of the skills required by the labour market, but they do not know how to develop them. Also, in the Italian context it is important to continue along this vein of research to understand the value of pre-university education and university education in determining graduate's self-employability and employability in the labour market. The Italian studies have investigated particular contexts and the results cannot be generalized for the Italian HE graduates' (self) employability.

University-work transition has become increasingly unpredictable and driven by changes within society, education, and the labour market (Tomlinson, 2013). Within these environments, career control, proactivity and career planning are recognized as necessary behaviors for an individuals' own career management. They can be acted upon during two different phases: preparatory, which is related to the use of different sources (formal and informal), to also identify alternative jobs; active, which is related to an intentional search for information, and actions consistent with a target career position (Ingusci et al., 2019). Therefore, career control increasingly demands self-directedness and planning.

Specifically, career control is described as the attitude to think of the future as manageable through strategies of self-regulation useful for adjustment to the needs of different situations and setting (Savickas & Porfeli, 2012).

Proactivity has shown to be associated with important outcomes such as career initiative, career success, readiness to change, and learning (Spitzmuller et al., 2015). Being proactive implies having the attitude of focusing on the future, seeking self-improvement, identifying valuable opportunities, and persevering until one's goals are reached (Bateman & Crant, 1993).

Students' career planning requires them to be managers of their careers, making important decisions and choices about their future, defining actions and strategies necessary for the realization of further professional development objectives. According to social cognitive theory (Lent, Brown, & Hackett, 1994), an individual's career can be affected by their background contextual factors (e.g., educational background, family), which together with personal variables (gender, socio-economic status, ethnicity) in turn affect individuals' self-efficacy, which act as a compass for a self-management career process. Therefore, in this study, we have included further personal and contextual factors as antecedents of career planning.

3. Aims of the study

The general aims of this study are:

- To explore the perceptions of the state of the labour market of students attending an Italian university;
- To explore to what extent contextual and personal variables affect HE students' career planning or labour market perceptions.

The specific aims of our study can be summarized as follows:

- To verify the psychometric properties of Jackson and Tomlinson' scales (H1);
- To test if negative perceptions of labour will be associated with:
 - a low level of perceived employability (H2);
 - a low level of career control (H3);
 - a greater level of proactivity (H4);
 - a greater commitment for developing positional advantages (H5);
- To verify the positive association between:
 - perceived employability and career planning (H6);
 - higher level of career control with career planning (H7);
 - career proactivity with a greater career planning (H8);
 - higher role of contextual factors and career planning (H9a, b, c, d);
 - higher role of personal factors and career planning (H10a, b).

4. Method: Sampling technique and procedures

The aim of the sampling technique was to involve the study of students at a university in the North of Italy from different disciplines, with the support and the permission of the coordinator of Engineering School, the coordinator of School of Agriculture and Veterinary Medicine, and the coordinators of two courses of the department of Education who provided us the lists of participants. In all the departments, at the end of the first semester 2020, the respondents were intentionally selected, from the final year (third-year) student cohort of bachelor's courses, from the two years of master's courses, and from the last three

years of the only cycle courses. These selection criteria were due to the fact that at these stages it is believed that students have spent a significant amount of time at university and they are more aware of their career goals, the influencing factors on career development, and the challenges of university-work transition than the other undergraduates.

After receiving the list of participants (11.000 students), at the beginning of the second semester, the survey was administered through the university license of *Limesurvey*, an online software. This procedure allowed us to send all students, through the institutional e-mail account, a personal invitation to participate in the study, the details on the purpose of the study, and the personalized electronic link as well. Data were collected between March and May 2021. Of the 11.000 questionnaires only 2.834 were completed, of which 2.744 were in the Italian language and 90 in the English language. Participant characteristics are summarized in Figure 1.

Variable	Sub-groups	Field of Study							
		Education (0)		Engineering		Agricuilt/Vet		Total	
		<i>N</i>	<i>Valid</i>	<i>N</i>	<i>Valid</i>	<i>N</i>	<i>Valid</i>	<i>N</i>	<i>Valid</i>
			%		%		%		%
Gender	Male (0)	25	9.4	1570	73.7	207	43.3	1802	63.4
	Female	242	90.6	559	26.3	231	52.7	1032	36.6
Age(years)	20-25	151	56.7	1786	83.9	332	75.8	2269	80.1
	26-30	62	23.2	279	13.1	77	17.6	418	14.7
	31-35	26	9.7	40	1.9	12	2.7	78	2.8
	36+	28	10.4	24	1.1	17	3.9	69	2.4
Residency	Domestic (0)	267	100	2064	96.9	376	85.8	2707	95.5
	International	/	/	65	3.1	62	14.2	127	4.5
Stage of Study	Third year (bachelor's) (0)	76	28.5	930	43.7	149	34.0	1157	40.8
	Third year (only cycle)	/	/	14	0.7	2	0.5	16	0.5
	Fourth year (master's)	93	34.8	497	23.3	90	20.5	679	24
	Fifth year (master's)	98	36.7	634	29.8	148	33.8	880	31
	Fourth year (only cycle)	/	/	10	0.5	12	2.7	24	0.8
	Fifth year (only cycle)	/	/	44	2.1	37	8.4	81	2.9
Highest parental occupation	Manager	10	3.7	99	4.7	21	4.8	130	4.6
	Executive (1)	17	6.4	241	11.3	51	11.6	309	10.9
	Professional	41	15.4	463	21.7	78	17.8	582	20.5
	Public employee	51	19.1	439	20.6	93	21.2	583	20.6
	Social service	8	3.0	24	1.1	2	0.5	34	1.2
	Manual/trade	66	24.7	404	19.0	83	18.9	553	19.5
	Entrepreneur	36	13.5	192	9.0	57	13.0	285	10.1
Student working status	Full-time employed in role related to targeted career	63	23.6	146	6.9	23	5.3	232	8.2

Full-time employed in role unrelated to targeted career	14	5.2	42	2.0	6	1.4	62	2.2
Part-time employed in role related to targeted career	28	10.5	89	4.2	38	8.7	155	5.5
Part-time employed in role unrelated to targeted career	75	28.0	266	12.5	60	13.7	401	14.1
Full-time Student (Not employed)	87	32.6	1586	74.5	311	71.0	1984	70.0

Figure 1. Participants' characteristics.

5. The Italian version of the scales and data analysis

In this study, the same scales used in Jackson and Tomlinson's study (2020) to measure students' perceptions of current labour market demands and their relationship with factors that relate to self-perceived employability, career proactivity, career control and positional advantage were considered. They are 27 items on a 5-point disagree-agree Likert scale. Besides the items of the original tool, the questionnaire also contained questions on participants' characteristics. They include the same variables considered in the original study such as gender, age, residency, field and state of study, employment, parent's occupation, and further personal and contextual variables: family support, role of school and university, role-modelling, expectations, personal career interest. In general, in other studies, these further variables were identified as influencing career behaviors (Lent & Brown, 2013). In this study, the aim was to verify to what extent they affect students' career planning.

Participants were asked to rate themselves relatively to the different mentioned factors using the Italian or the English version according to their language.

To create the Italian version of the instrument the *backtranslation* method (Brislin, 1970) was adopted. To assess the validity of the Italian version's scales (Tino & Fedeli, 2021) we conducted an Exploratory Factor Analysis (EFA) considering data collected (N=2744) through the Italian version of the scales, and by using the principal components analysis (PCA) and the Oblimin rotation with the Kaiser Normalization method. Six factors were identified as in the original study (Jackson & Tomlinson, 2020) as confirmed by the *Eigenvalue* >1 method by the scree-test and explained the 58.481% of variance. All factor loadings exceeded > 0.4 (Rossi, 2018). The inter-item consistency of scales was tested by Cronbach alpha ($\alpha > 0.7$). The final characteristics of the scales are shown in Figure 2.

Factor	Cronbach alpha	Ranging loadings	Variance explained
1. Career planning	$\alpha = 0.84$	from 0.553 to 0.803	22.004 %
2. Labour market state	$\alpha = 0.80$	from 0.489 to 0.793	13.592%
3. Positional advantage	$\alpha = 0.70$	from 0.501 to 0.842	8.393%
4. Career control	$\alpha = 0.73$	from 0.394 to 0.860	5.471%
5. Perceived employability	$\alpha = 0.73$	from 0.675 to 0.796	4.531%
6. Proactivity	$\alpha = 0.80$	from 0.672 to 0.793	4.147%

Figure 2. Characteristics of the scales (N=2744).

According to the general aim of the study, the whole sample was considered for data analysis: 2.744 answers obtained through the Italian version, and 90 answers obtained through the English version.

The contextual factors were operationalized using five-point Likert scale and their main features obtained through the PCA with Oblimin rotation and the Kaiser Normalization method are shown in Figure 3.

Factors	Mean	DS	Cronbach alpha	Ranging loadings	Variance explained
1. University” (3 items)	3.15	0.92	$\alpha = 0.68$	from 0.618 to 0.804	24.109 %
2. Career modelling (2 items)	2.18	1.06	$\alpha = 0.60$	from 0.760 to 0.802	10.357%
3. Family support (2 items)	3.98	0.96	$\alpha = 0.65$	from 0.791 to 0.800	7.622%
4. High school (4 items)	2.98	0.92	$\alpha = 0.70$	from -0.431 to -0.881	7.208%
5. Expectations (3 items)	3.70	0.77	$\alpha = 0.69$	from -0.546 to -0.870	6.300%
6. Personal career interest (4 items)	3.93	0.70	$\alpha = 0.70$	from 0.605 to 0.721	5.910%

Figure 3. Further personal and contextual factors as antecedents of career planning (N=2834: Italian- English).

To verify the common method of variance, Harman’s single factor test (Podsakoff et al., 2012) was conducted, and as the total variance for a single factor was less than 50% (19.519%), it suggested that common method bias would not affect data and the results.

Data were analyzed using SPSS 28.0 and different analyses were carried out: a) descriptive analysis included the mean and the standard deviation of all items related to career planning, labour market perceptions, positional advantages, career control, perceived employability, career proactivity, and personal and contextual factors; b) bivariate analysis allowed us to identify the correlations between variables; c) multiple regression was conducted in order to verify the hypotheses. Dummy variables were created for the regression analysis and indicated by (0). For the highest parental occupation, manager-executive/professional was indicated by (1) and the others by (0). In addition, the working status was coded as relevant employment, non-relevant employment and unemployed, and relevant employment was indicated by (0). In this study the field of study, and further personal and contextual factors (Figure 3) were considered as predictor variables.

6. Results

The mean and the deviation standard of all items are reported in Figure 4. As in the original study (Jackson & Tomlinson, 2020), the first item of the labour market perception was reverse-coded. Therefore, participant’s agreement with the six items represented a negative view of the labour market.

Comparing the mean item mean of all dimensions investigated, the labour market state and the positional advantage registered the lowest mean ratings. In particular, mean ratings showed clear student concern about the opportunity of finding a job within the demanding labour market which mirrored their awareness related to the risk of occupying a lower professional position compared to their graduation much more, and therefore doing jobs that do not correspond to their choice and expectations, rather than the uncertainty of casual and fixed-term work.

Students were not so involved in developing positional advantage activities and this behavior mirrored the high mean ratings of their self-perceived employability. They really felt confident about their skills and their ability to compete for job positions, so they did not perceive the necessity to be involved in further experiences. As in the Jackson and Tomlinson’s study, this cohort of students also demonstrated a high sense of control over their careers, and the awareness of being a self-manager of their own professional development, but they did not show the same high level of ability necessary to develop a correspondent and professional action plan. In fact, while they were involved in exploring career options, they did not make all the effort they could for developing their employability. Overall, also in this study, proactivity was the prevalent students’ career behavior. They appeared strongly career-oriented, showing an eagerness to forge a career.

	Ranging item means	Ranging SD	Mean item mean
Perceived state of labour market	3.16 -3.83	0.965-1.187	3.40
Perceived employability	3.59-3.85	0.896-1.022	3.71
Career control	3.50-4.38	0.725-0.912	3.92
Career planning	3.26-3.76	0.970-1.106	3.45
Proactivity	3.92-4.19	0.854-1.017	4.05
Developing positional advantage	1.69-2.64	1.054-1.424	2.30

Figure 4. Mean and standard deviation (N= 2834).

6.1. Predictors of students’ labour market perceptions

For all the constructs of the scales, the bivariate correlations are presented in Figure 5, which shows that the bivariate correlation between variables considered as predictors did not exceed .05.

Measure	1	2	3	4	5	6
1. Perceived state of labour market	1					
2. Perceived employability	-.433**	1				
3. Career control	-.248**	.437**	1			
4. Career planning	-.017	.350**	.411**	1		
5. Proactivity	.045*	.280**	.351**	.599**	1	
6. Positional advantage	-.010	.099**	.071**	.296**	.129**	1

*Correlation is significant at the 0.05 level (2-tailed)
**Correlation is significant at the 0.01 level (2-tailed)

Figure 5. Bivariate correlations (N=2834).

Comparing the correlation with the previous study (Jackson & Tomlinson, 2020) some similarities and differences were reported. While in this study there were no reported correlations between labour market perceptions and career planning, and positional advantage respectively, there was a positive correlation between career control and perceived employability ($r=.437$); a positive correlation between proactivity and perceived employability ($r=.280$), which would indicate that more proactive students do not perceive the state of the labour market so positively. Also, in this case the positive correlation between proactivity and students’ career control ($r=.351$) was reported, indicating that the more they are involved in their goal career setting, the higher their own career control is.

To explore the determinants of students' labour market perceptions multiple linear regression was carried out. The model did not register multi-collinearity with a tolerance index $<.10$ and the variance inflation factor <10 . First order linear autocorrelation was absent as the Durbin-Watson test statistic confirmed of $d=1.959$. The overall regression model ($N=2834$) was considered a reasonable fit for the data $F(14.2783) = 72.791, p < .000$ (Figure 6).

	B	SE	β
Gender	.197	.029	.125***
Age	.028	.021	.023
Residency	.080	.065	.022
Parental Occupation-Manager-Executive/Professional	-.065	.025	-.043**
Agriculture/Vet.	-.025	.056	-.012
Engineering	-.192	.050	-.109***
Stage of study-year 4	.005	.032	.000
Stage of study-year 5	.067	.030	.042*
Employment Not relevant to target career	.116	.047	.054*
Unemployed	.156	.039	.094***
Perceived employability	-.380	.019	-.380***
Career control	-.161	.024	-.124***
Proactivity	.171	.017	.179***
Positional advantage	-.001	.015	-.001
R ²	.270		
Adjusted R ²	.265		

* $p < .05$; ** $p < .01$; *** $p < .001$

Figure 6. Regression analysis on labour market perceptions.

According to regression results, students' age and residency were not significant predictors of their labour market perceptions, while gender represented a significant association with market perceptions. Therefore, females were observed to have a weaker labour market perception than males. Those students whose parents have a high occupation registered more favourable labour market perceptions than those who have parents with other professional profiles. Additionally, a significant positive association was identified for those undergraduates who attend Engineering school compared with students attending the Education field. Therefore, students who attended Engineering school had positive labour market perceptions. Both, for those students who attend the school of Agriculture and Veterinary Medicine and those attending the 4-year study there was no significant association with labour market perceptions. Those undergraduates who were attending the 5-years of study reported significantly weaker labour perceptions, compared with those attending the 3-years of study. Students who scored more highly on 'employed in a role not relevant to their target career' or on 'unemployed' reported a significant weaker association with labour market perceptions.

For *perceived employability* a strong association with the higher levels predicting positive labour market perceptions, corroborating hypothesis 2, was registered. Correspondingly, a significant association was indicated for those who scored more highly on career control in predicting positive labour market perceptions, supporting hypothesis 3.

Students' proactivity was negatively associated with their labour market perceptions, confirming hypothesis 4.

Hypothesis 5 was not confirmed because students' commitment for developing positional advantages was not a significant predictor of their labour market perceptions, and this was also explained by non-significant bivariate correlation with 'labour market perceptions'.

6.2. Predictors of Career Planning

For this cohort of students', career planning is a dimension that registered a mean item of 3.45. It is in fourth position in the ranking list of the investigated dimensions. This explains that students are not fully engaged in their career planning. They seemed to be much more involved in the exploration of career opportunities than in career decision-making or choices. This result suggests that students are not usually supported in defining a personal development planning aimed at allowing them to become 'autonomous/self-directed/flexible lifelong learners' (Edwards & Usher, 2000, p. 55).

Multi-collinearity and first-order linear auto-correlation were absent ($d=2.039$). The overall regression model presented in Figure 7 was considered a good fit for the analyzed data ($F(21.2776) = 140.659, p < .000$).

Residency was positively associated with career planning, showing that international students were much more involved in their career planning compared to their counterparts (domestic students).

Among the personal characteristics, while gender was not a significant predictor, age registered a positive association with career planning. Therefore, the more mature students were, the more they were engaged in their career planning.

Attending Agriculture and Veterinary Medicine school is not a significant predictor of career planning, while there was a significant negative association for undergraduates who attended Engineering school compared to those who were attending the Education field. Therefore, engineering students are less engaged in their career planning. A positive significant association was reported for undergraduates who were in the last 5-years of their pathway, compared to those engaged in their third year of study. This result shows that the nearer the university-work transition phase is, the more students become aware of the importance of their career planning process.

In addition, for those undergraduates who are *employed in a role not relevant to their target career* or *unemployed* a significant negative association with career planning was reported. Therefore, these categories of students are less engaged in their career planning.

The variable *labour market perceptions* showed a positive significant association with career planning, despite it not having any significant bivariate correlation with career planning. To verify to what extent the regression model could change, it was also removed from the regression. As the inclusion/exclusion of the *labour market perceptions* variable did not cause significant changes to other variable coefficients or of the general model, we decide to include it. Being aware of the state of the labour market can motivate students in the management of their career.

The association with career planning for those undergraduates who had a positively perceived employability was positive. This result corroborates hypothesis 6. In the same way, career control, proactivity and positional advantages represented strong predictors of career planning. Therefore, confirming hypothesis 7, the more control students have of their career, the more they are involved in their career planning.

The positive association with proactivity supporting hypothesis 8 was strong: the more students act as proactive people, focusing on their future and valuable opportunities, the more they are involved in their career planning.

Furthermore, in support of hypothesis 9, the more undergraduates were involved in activities to enhance their positional advantage, the more they were engaged in their career planning. This result showed the students' awareness of the importance of experiential learning, to create a connection between theory and practice, to participate in work-based learning experiences as opportunities to develop hard and soft skills, but also as a way of being responsible for their own careers. Among further contextual influencing factors considered (university (*H9a*)), career modelling (*H9b*), family (*H9c*), school (*H9d*), for the role of family a significant negative association with career planning was reported. Surprisingly, students with higher family support showed less engagement in their career planning. This result was not in support of the hypothesis 9 and showed that more investigation needs to be carried out on these factors.

	B	SE	β
Gender (f= 1)	-.001	.026	-.000
Age	.094	.019	.071***
Residency (International =1)	.270	.058	.067***
Parental Occupation-Manager- Executive/Professional (1)	-.030	.022	-.018
Agriculture/Vet.	-.015	.050	-.007
Engineering	-.150	.046	-.078**
Stage of study-year 4	.020	.029	.011
Stage of study-year 5	.077	.027	.044**
Employment Not relevant to target career	-.086	.043	-.037*
Unemployed	-.181	.035	-.100***
Labour market perceptions	.055	.017	.050**
Perceived employability	.131	.019	.120***
Career control	.249	.022	.175***
Proactivity	.414	.017	.397***
Positional advantage	.142	.014	.149***
University role	.022	.014	.025
Career modelling	.019	.012	.024
Family support	-.035	.013	-.040**
High school role	.026	.014	.028
Expectations	.018	.018	.017
Personal career interest	.125	.020	.106***
R ²	.516		
Adjusted R ²	.512		

(p=.060)

*p<.05; **p<.01; ***p<.001

Figure 7. Regression analysis on career planning.

Among further personal influencing factors (expectations (*H10a*)) and personal career interest (*H10b*)), only for “personal career interest” was a significant association reported. Therefore, the stronger students' career interest is, the higher their career planning scores are. Through this result, hypothesis *10b* was confirmed.

7. Discussion and implications

This is one of the first studies carried out on students' perceptions of the labour market during the pandemic.

Among the undergraduates who attended the Italian university there was a general awareness of the current complexity of labour market. However, despite the precariousness due to the pandemic, students' labour market concerns were not revealed to be particularly negative within some groups of students. In fact, those students who had parents with high professional occupations or who belong to the engineering school perceived a more favourable labour market state compared to those who had parents with lower professional profile and who belonged to the school of education. The reason for these results can be found in the certainty offered by both a stable socio-economic household status, which reflected the effect of social stratification (Stevens et al., 2008), and by the engineering professional identity that usually guarantees more job opportunities than the education field, while also avoiding the risk of being both underpaid and employed in an undereducated position (Ballarino & Bratti, 2009). Students who were in the early stage of study appeared to be more worried about the risk of unemployment than those who were in the last stage of their learning pathways. Therefore, in line with Tymon's study (2013), they become more aware of the importance of employability and of the management of their career planning, in the phase of university-work transition. The possibility of having work experiences in a relevant career offered them a positive vision of the state of the labour market, concealing its levels of competitiveness and precariousness.

Proactivity orientation is a further factor which explained that more students had the propensity for defining their career goal settings, the less positive their labour market perceptions were. This result showed students' responsibility in working on their future employability, while facing the threat of job insecurity. This justified their career control attitude based on their goal commitment and their future orientation career behaviors. Being aware of the uncertain labour market requires students to be able to implement strategies for thinking effectively of their future. In fact, self-regulation for adjustment to the needs of situations, willingness, knowledge, and skills, are necessary for them to manage tasks, transitions, and address potential career challenges with resilience (Green, Noor, & Hashemi, 2020).

Confirming Jackson and Tomlinson's study results (2020), in this research a low level of students' perceived employability was strongly connected to the increase of their negative labour market perceptions, with the risk of becoming real obstacles for young people's careers in the contemporary vocational landscape. In fact, even if students paid great attention to their career (identified in this study as proactivity), they did not feel that they had the abilities to face the unpredictable challenges related to the work environment. This aspect highlights how, during students' learning pathways, it is important to provide them with learning experiences and activities useful to advocate a shift away from predefined sets of skills, knowledge and attributes, towards enabling graduates to be self-directed and self-managers as required by the dynamic labour landscape (Krouwel et al., 2020). Consequently, the lower the students' career control was, the higher their negative labour market perceptions were, confirming the importance of supporting students' self-efficacy development (Lent, Brown, & Hackett, 1994) as a component with an impact on individuals' career development, and on their work identity. Students' work identity construction is determined by the intersection between personal agency and the opportunity for them to experiment with employability interventions aimed at shaping their professional

identity as their skills develop, and as they approach the end of their learning path. (Smith et al., 2019)

As in Jackson and Tomlinson's study (2020), also in this research, perceived employability was less important for career planning and proactivity, reinforcing the idea related to the importance of supporting students' sense of career control, through strategies that can help them to become self-directed and effective navigators among boundaryless careers. Consistent with the high level of students' proactivity, students' career planning was influenced both by their labour market perceptions which require them to be goal-oriented and flexible, and for constructing their work identity. These results are consistent with the importance for students of being involved in extra-activities, because these experiences support them in developing employability skills, and in enhancing their career and curriculum vitae (Smith et al., 2019). Along with the same coherent career behaviors, students were engaged in career planning processes during their last stage of study (stage-study 5), when they usually recognize extra activities as important for their career (Tomlinson, 2008). Surprisingly, students *employed in not relevant career* or *unemployed* are less involved in a personal career planning process than those who are *employed in relevant career*. This career behavior shows important implications for university contexts. It highlights the need to provide students with support and the exposure to work-related experiences useful for them to explore successful opportunities, and to determine the skills they require for their desired job. Guidance would help students to reflect on the responsibility they have for their own career management, and for taking the ownership and shaping their protean career (Donald et al., 2017).

Despite the role of university, it did not influence students' engagement with career planning, which represents a further implication for university contexts, because it likely underlines that students do not perceive university as a determinant for their career development. Therefore, universities should make students feel their presence by means of actions aimed at supporting them in their professional development path, through the construction of university-business partnerships, dialogue with the labour market, and providing students with authentic tasks in real contexts (Miner & Nicodemus, 2021).

Engineering students were less involved in their career planning compared with those students who were in education field, mirroring their favourable labour market perceptions. These findings reflect their sense of optimism due to the opportunity to satisfy their career expectations and the expected social recognition that inevitably produce effects on their self-efficacy, recognized by Lent, Brown, and Hackett (1994) as an important determinant for individuals' career development.

It is important to note that international students were much more involved in career planning than Italian students. This offers food for thought to the Italian university, because it underlines once more the responsibility of academic contexts in supporting students' career development. It requires that universities adopt strategies for encouraging students to gain relevant work experiences useful for developing an appropriate career attitude, and for introducing employability initiatives as part of curriculum (Thompson, 2017). "[...] employability is not inimical to good learning but is supportive of it. The student learning that makes for strong claims to employability comes from years, not semesters; through programmes, not modules; and in environments, not classes" (Knight & Yorke, 2003, p. 4).

The current precariousness of the work force reflected students' career behaviors related to the attitude of planning their career while they were more mature. However, this result can also be connected to their 'personal career interest' on the basis of which students were

motivated to plan their career. This result could fit with Holland's idea (1997) according to which individuals choose their career on the basis of the trait of their personality, or with the development of personal self-efficacy that was identified by Lent, Brown, and Hackett (1994) as a determinant of career interest. Family support appeared as the only contextual influencing factor on students' career planning. The influence of parents on the career planning of their children has been discussed in the literature (e.g., Turner & Lapan, 2003). However, in this study those students who received more support (encouragement, abilities recognition) from their family are less engaged in their career planning. Family support could likely make them be perceived as highly successful people, and therefore they did not feel the need to plan their career.

8. Conclusion

This study presents the students' perceptions of current labour state of an Italian university, and even if the results obtained offer food for thought for every academic context, and understandings of the career planning determinants, the results cannot be generalized. Most participants, in fact, belonged to a single university of a north Italian area, and only three fields of study were involved. Compared to the previous research (Jackson & Tomlinson, 2020) further personal and contextual variables were included in the career planning regression, but only *family support* and *career interest* appeared as determinants of the dependent variable. Findings revealed an association of students' labour market perceptions with their perceived employability, and career control. Unlike the previous research (Jackson & Tomlinson, 2020), proactivity attitude was expressed by students through their participation in activities aimed at generating their positional advantage, their career interest, and their engagement in career planning as well. Students seem to recognize that university learning pathways alone cannot fully support them in developing an efficient professional identity, so they made an effort to practice further extra activities to build up a stronger work identity. Participating in career preparation activities allows them to develop employability skills, attitudes useful for finding suitable employment despite the challenging economic times, and to effectively manage their university-work transition (Green, Noor, & Hashemi, 2020). In particular, the study also highlights the behavior of career attitudes of some categories:

1. women are those who have an awareness of the current precariousness, but then do not translate these concerns into career planning activities;
2. mature students, without any gender difference, perceive the importance of planning their careers;
3. engineering students are those with lower negative perceptions of the labour market, compared to students of the education field, and they are less engaged in their career planning;
4. domestic students are less engaged in their career planning than transnational peers; only those who are engaged in extra activities are self-managers of their career;
5. *employed in not relevant career*, or *unemployed* have a certain level of awareness of the complexity of the labour market, but they maintain a passive career behavior.

This evidence suggests the need for higher education institutions to implement career supporting initiatives and programs to provide significant learning and training experiences to the different groups of students. They are useful for helping them to scan the strengths

and the weaknesses of the current labour market, to develop the necessary skills to cope with the career challenging boundaryless careers. Students should be supported in developing an intentional and professional goal-oriented action plan which nurtures their proactivity, and which plays a crucial role in the current challenging vocational environment. In this sense, implementing suitable career interventions should be one of the main tasks for universities, because they are resources for developing students' proactivity that act as catalyst in nurturing effective career adapting responses (Rudolph et al., 2017).

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