

Graduates' perceptions of competencies and preparation for labour market transition

The effect of gender and work experience during higher education

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Abstract

Purpose – The purpose of this paper is to explore the influence of work experience and gender on graduates' perception of competencies, preparation and expectations of success in labour market (LM) transition. The research questions that guide this study are: How do graduates evaluate the competencies acquired during their masters' degree? How do graduates evaluate their preparation for transition to the LM and their expectations of success?

Design/methodology/approach – Within the framework of employability models, the authors explore the perception of competencies developed during higher education (HE). Given previous reported effects of gender and work experience on the process of work transition, these two variables are also considered. A questionnaire was administered to 411 students in their final masters' degree year. Descriptive and inferential statistics, namely, univariate analysis of variance (F-anova 2×3) with *post-hoc* multiple comparison test (*post-hoc* HSD of Tukey), are developed to analyse the data and address the research questions.

Findings – The main results show that there are no significant group differences concerning perception of the development of competencies; the effect of work experience on perceptions related to preparation for transition to the LM depends on gender; and expectations of successful transition to the LM are related to gender, with no significant influence of prior work experience.

Originality/value – These data suggest that, in developing their programmes, it is important for HE institutions to consider self-beliefs related to students' diversity, in order to maximize the development and effective use of competencies and individual resources in work contexts, for all students. Exploration of the effect of gender and work experience on perceptions of competencies and preparation for the LM should help HE institutions define curricular programmes and support graduates in preparing for entry to the LM.

Keywords Higher education, Gender, Work experience, Work transition

Paper type Research paper

Introduction

The topic of employment is a current top-priority for the EU (European Parliament, 2013). However, there is substantial variation across European countries in higher education (HE) systems and subsequent employment experience, with some countries placing more emphasis on employment than others (García-Aracil, 2012). In Portugal, explicit recommendations have been in place since 2012 to rationalize the education offer according to the employability rates in each course field. The prevalence of graduates in the group of individuals that first accesses the labour market (LM) reveals



a systematic increase over the period 2002-2009, representing about 24 per cent of the new entrants in 2009. Unfortunately, this has made it more difficult for young graduates to enter the job market (Alves and Stiwne, 2010; Cardoso, 2012). The latest numbers from Portuguese job centres indicate that approximately 13 per cent of all unemployed people registered have a HE diploma. Of these, 16.6 per cent are female compared with 9.2 per cent of male unemployed graduates. Moreover, the results from research on Portuguese graduates' transition to work suggest that women experience more difficulty (longer time) to find a job and are also more frequently unemployed or in an insecure jobs (Alves and Stiwne, 2010; Direção-Geral de Estatísticas da Educação e Ciência, 2015).

For satisfaction with study programmes, students seem to be satisfied with their overall scientific and pedagogical qualities, but less satisfied with the proximity between their academic studies and professional contexts (Alves and Stiwne, 2010). Employers also value this; they consider that graduates with professional experience are more competitive in the transition to the LM (Cardoso, 2012). This aspect has attracted criticism about how much HE institutions are preparing graduates for the transition to work (Alves and Stiwne, 2010; Cardoso, 2012), overall one of the main missions of HE institutions is development of competencies (combination of knowledge, skills and attitudes) to prepare students for the LM (Warn and Tranter, 2001).

Employability models

Conceptually, issues such as work transition and employability are complex and require a holistic analysis which includes the individual graduate, employers and the education system. The link between formal education programmes, and learning outcomes and employability is not always straightforward and that there are other factors which are interacting in a complex equation which influences the transition to work and employability (Alves, 2005). In the present study, we focus on the individual graduate as the main actor, and include the set of their competencies at the end of their academic degree, and their background characteristics and experience.

Employability is considered a complex and multi-faceted concept (Forrier and Sels, 2003; Fugate *et al.*, 2004; Rothwell *et al.*, 2008). It includes internal factors, such as vocational or job-related knowledge and skills, and job search abilities (Hillage and Pollard, 1998) and potential to learn (Lane *et al.*, 2000), along with external factors such as the prevailing state of the LM (Kirschenbaum and Mano-Negrin, 1999; Lane *et al.*, 2000). Several employability models, such as the USEM (which outlines four broad and inter-related components: understanding; skills; efficacy beliefs; and metacognition) (Yorke and Knight, 2004) and the CareerEDGE model (which outlines components of: experience; degree subject knowledge, understanding and skills; generic skills; and emotional intelligence) (Pool and Sewell, 2007) account for employability, efficacy and students' self-theories and provide a crucial link between employability and knowledge, understanding, skills, experience and personal attributes. Pool and Sewell (2007) suggest that everything that student does and experiences during the time at university has an impact on self-esteem and that employability is based on the development of strong self-esteem. For these reasons, the perceptions about the competencies developed in the course of a college degree can play an essential role to understand future employability.

How employability is conceived, in particular by individuals in the context of their experience, aspirations, and their ability to compete in the LM – which are determinants of employability – is still under-researched (Wittekind *et al.*, 2010; Rothwell *et al.*, 2008). Rothwell *et al.* (2008) proposed a self-perception employability matrix for university students. It assumes that employability is composed of internal and

external dimensions. It identifies as internal, skills and self-confidence (similar to belief about personal efficacy), and suggests they need further investigation. Wittekind *et al.* (2010) published a longitudinal study of the determinants of self-perceived employability such as the importance of education, and support for career and job-related skills development. However, their empirical study was carried out on a sample of employees not HE students. To our knowledge, there are no published data on the latter.

Work experience

During their HE studies, European students spend an average of 30 months engaging in other activities, mainly paid employment (Allen and van der Velden, 2011). In some countries, undergraduate programmes try to integrate work experience in the curriculum (Allen and van der Velden, 2009, 2011), although work experience often seems to emerge as a student initiative, based on their need to generate income whilst studying (Harvey, 2005). The impact of work experience during HE is a subject of debate and its effect differs depending on the type (e.g. study related or not), duration and capability of the student to learn from and reflect on that experience (Allen and van der Velden, 2009, 2011; Blackwell *et al.*, 2001; Blasko *et al.*, 2002; Harvey, 2005; Knight and Yorke, 2003). For example, Blasko *et al.* (2002) suggest that spending some time being employed - related or unrelated to the field of study - is usually favourable to their LM position, unless this employment is for less than eight months. Their findings show that work experience during HE decreases the rate of failure to graduate from 24 to 10 per cent, measuring success as reduced risk of unemployment, increased likelihood of employment in a graduate-level job, receiving a higher salary and achieving job satisfaction. Allen and van der Velden (2011) report a weak effect of study-related work experience on the development of several competencies promoting mobility, while non-related experience seems not to affect the development of these competencies. Several studies report that (potential) employers value work experience (Association of Graduate Recruiters, 1998; Blasko *et al.*, 2002; Pierce, 2002; Yorke, 2004) and, thus, find that it favours graduates' employability indirectly. Work experience is integrated in several employability frameworks and course provision models as an important aspect with direct or indirect influence on employability. Hillage and Pollard (1998) refer to work experience as influencing "job getting skills", such as CV writing and interview techniques. Bennett *et al.* (1999) highlight work experience, workplace awareness, disciplinary content knowledge, disciplinary skills and generic skills as five of the capabilities required for optimum employability. Pool and Sewell (2007) propose a model that includes several components categorized as essential for graduate employability. They consider work experience to be a valuable part of career development learning, but stress that it should be related to the field of study. Pool and Sewell suggest that providing students with opportunities to access and develop professional career, work experience, degree subject knowledge, understanding and skills, generic skills and emotional intelligence, and encouraging reflection and evaluation of this experience, leads to higher levels of self-efficacy, self-confidence and self-esteem, which they define as linked to employability.

Despite this general consensus about the positive impact of work experience during HE, on many different levels, very few studies consider more subjective aspects such as self-belief about the transition to the LM. In this context, Turner (2014) discusses the importance of understanding how self-beliefs are developed during HE, describing them as a factor in current models of employability (Pool and Sewell, 2007; Yorke and Knight, 2007). Some empirical studies show the relevance of providing students with

appropriate practical experience to develop a sense of efficacy, enabling the application and articulation of knowledge and skills (Van Dinther *et al.*, 2011; Edwards, 2014). However, further empirical study is required to understand how self-belief can be developed during HE, and how it affects transition to the LM.

Gender

The literature highlights gender differences in HE and the subsequent transition to the LM. Despite the fact that female students generally outnumber and outperform male students in HE (Grebennikov and Skaines, 2009), they seem to continue to experience greater difficulty in entering the LM. Male graduates appear to be favoured at the start of professional life, and these gender differences seem to increase over time. This is reflected by the level of satisfaction expressed by graduates, with male graduates declaring greater satisfaction with their career trajectory compared to female graduates (Alves, 2005; García-Aracil, 2009, 2012). These differences are evident in several career outcomes such as wage levels, promotions, self-employment and occupation of executive positions (Álvarez *et al.*, 2013; Bertrand *et al.*, 2010; García-Aracil and van der Velden, 2008; Gayle *et al.*, 2012; Ginther and Hayes, 1999; Ginther and Kahn, 2004; Selva, 2013) and also according to subjective measures such as perception of career barriers (Cardoso and Ferreira Marques, 2001; Cardoso and Moreira, 2009; McWhirter, 1997; Shinnar *et al.*, 2012) and expectations about future labour roles (Abarca *et al.*, 2012). Women are also more likely to continue their student job after graduation (even if it is a non-graduate-level position), and to encounter more gender discrimination in the workplace (Maxwell and Broadbridge, 2014), which, in turn, has been shown to be negatively associated with subjective career success (Herrbach and Mignonac, 2012). On the other hand, compared to men, women seem to extract fewer benefits from important career experiences such as involvement in extra-curricular experience during HE (Stevenson and Clegg, 2012), work experience, and training leading to career advancement (Tharenou *et al.*, 1994). In general, women and men seem to navigate the career pathway differently. Thus, it would seem important to understand the differential impact of HE experience on male and female students and to analyse how gender differences might be addressed in order to promote more equal opportunities in the transition to and subsequent integration in the LM.

The present paper aims to contribute to our understanding of students' perceptions of competence development during HE, and their perception of preparedness for work and expectations of success in the transition to the LM. The perception of preparedness and expectation of successful transition to the LM are theoretically similar to the concepts of subjective employability and self-perceived employability discussed above. Although these variables might appear to be beyond the control of the HE institution, their inclusion in the analysis can be important to understand how graduates' perceptions of competence and preparedness for the LM develop. It might be that HE institutions could be important for reflection on and evaluation of competencies and reducing gender differences in HE and outside of academia. Thus, the research questions addressed in this study are:

- RQ1.* How do graduates evaluate the competencies acquired at the end of their masters' degree?
- RQ2.* How do graduates evaluate their preparedness for the transition to the LM, and their expectations of successful employment?

We explore also the influence of work experience during HE and the effect of gender on these aspects.

Method

Participants and procedures

The data come from the responses to a questionnaire administered to a sample of 411 students (51 per cent female) in a public university in the North of Portugal. The students were in the final year of their masters' degree programme (postgraduate programme or integrated masters representing a second cycle degree with two years of duration, following a three year first degree programme of study in line with the Bologna restructuring). They were studying in the fields of: economics (24 per cent); social sciences (14 per cent); law (13 per cent); and engineering (49 per cent). The average age was 25.57 (SD = 6.58), ranging between 19 and 62 years. At the time that the survey was implemented none of the students had any internship experience. In this paper, work experience refers to activities initiated by the students, and not related to the curricular programme. The students were given a presentation of the aims of the research project during class time, followed by the questionnaire. Participation was voluntary; the students signed an informed consent form, and anonymity and confidentiality of the collected information was assured. This study is part of a broader research project on the employability of graduates, approved by the university ethics committee, which ensures compliance with good research practice.

Measure

The present study refers to three topics in the questionnaire, focusing on the evaluation of the competencies developed during HE, and transition to the LM. The responses analysed refer to the following questions: "Overall, how do you rate the quality of your college education regarding each of the following areas of knowledge/competencies?" (five-point Likert scale, ranging from 1 "very weak" to 5 "very strong"); "How do you rate your overall preparation for the transition to the labour market?" (five-point Likert scale, ranging from 1 "not prepared at all" to 5 "very well prepared"); and "Overall, how do you rate your expectations of success in the transition to the labour market?" (five-point Likert scale, ranging from 1 "very low" to 5 "very high").

Data analysis

The competencies analysed fall into four categories: scientific competencies – focusing on the theoretical content of the course; practical competencies – referring to technical training to perform a job; transversal competencies – the set of competencies that is transferable to various professional activities; and career competencies – including job search strategies, adaptability, and capacity to make career decisions. For the group of transversal competencies, we followed the classification of Garcia-Aracil and van der Velden (2008), which integrates communication competencies (speaking and writing clearly and effectively); methodological competencies (ability to use tools and resources such as problem analysis, using information technologies, speaking a foreign language, etc.); interpersonal competencies (ability to work and interact with others, and to lead, manage conflicts, work in a team, motivate others, etc.); participative competencies (initiative, autonomy, self-motivation, decision making, identification of opportunities, innovation, lifelong learning, etc.); organizational competencies (ability to organize tasks, to plan, collect and process information, to be attentive to detail, etc.); socio-emotional competencies (ability to manage emotions and tolerate stress, self-confidence, self-control, etc.); generic competencies (general knowledge, sense of citizenship, ethical awareness, etc.). The measure of analysis for transversal competencies is derived from the mean scores of each of these competencies.

In order to explore the results for gender and work experience, the participants were split into three groups according to work experience: WE1 – no work experience; WE2 – work experience up to 24 months duration; WE3 – work experience for longer than 24 months duration. We performed a univariate analysis of variance (F-anova 2×3) for each competency and for the two items related to transition to the LM. The Levene statistic for the variables under analysis is non-significant, so the data conform to the assumption of homogeneity of variance necessary for a parametric test of mean comparisons. Descriptive, inferential and graphical analyses were conducted using the software IBM SPSS (version 22.0).

Results

Perception of the development of competencies during HE

Table I reports the descriptive statistics for the evaluation of competencies by gender and by work experience, for each of the three groups and for the whole sample. The participants' perceptions were the most positive for scientific knowledge. Also, participants evaluated their transversal competencies more highly than their practical competencies. The set of competencies that presented the lowest scores were career competencies. This pattern was similar for men and women, and across the work experience groups. There are no statistical differences for gender and work experience in relation to either the main effects or the interaction effects between gender and work experience, on the perception of competencies developed during HE. In other words, there are no differences in how male and female students evaluate the competencies developed during HE. Also, for those students with no work experience there was no difference for perceived development of competencies compared to students with work experience.

Perceptions about the transition to the LM

Table II presents the descriptive statistics for preparation for transition to the LM. For the most part, male students score higher than their female peers, whether for preparedness, or expectation of success in transition to the LM, with the exception of the group of male students with no work experience who report lower scores for preparedness for transition to the LM. We also observe a different outline between male and female students; women showing a decline in their perception of preparedness for

Competencies	Male (<i>n</i> = 199)			Female (<i>n</i> = 207)			Total (<i>n</i> = 411)
	WE1 (<i>n</i> = 104)	WE2 (<i>n</i> = 46)	WE3 (<i>n</i> =)	WE1 (<i>n</i> = 105)	WE2 (<i>n</i> = 57)	WE3 (<i>n</i> = 49)	
	<i>M</i> (SD)	<i>M</i> (SD)	<i>M</i> (SD)	<i>M</i> (SD)	<i>M</i> (SD)	<i>M</i> (SD)	<i>M</i> (SD)
Scientific competencies	3.81 (0.78)	3.85 (0.70)	3.96 (0.67)	3.77 (0.74)	3.86 (0.79)	3.92 (0.73)	3.83 (0.76)
Practical competencies	3.32 (1.05)	3.24 (0.97)	3.18 (0.87)	3.36 (0.82)	3.19 (0.97)	3.40 (0.82)	3.30 (0.93)
Transversal competencies	3.63 (0.63)	3.67 (0.57)	3.61 (0.59)	3.70 (0.60)	3.60 (0.60)	3.79 (0.56)	3.66 (0.60)
Career competencies	3.22 (1.03)	3.41 (0.80)	3.04 (0.89)	3.45 (0.87)	3.18 (0.93)	3.24 (0.88)	3.29 (0.92)

Table I.
Evaluation of competencies by gender and work experience

transition to the LM during the first 24 months of work experience (compared to the group with no work experience), and recovery from that decline as soon as they have 24 (or more) months of work experience (overtaking the previous two groups). The pattern is similar for expectation of success. In contrast, male students show a continuous increase in their perception of preparedness for the transition to the LM since they are involved in work experience over time. For expectation of successful transition to the LM, males show an increase up to the first 24 months of work experience after which they flatten out.

In relation to the inferential statistics, a main effect of work experience on the preparation for the transition to the LM was evident ($F(1,400) = 3.97; p = 0.02; \eta^2 = 0.02$; observed power = 0.71), suggesting that work experience has an effect on the way students perceive their preparation for transition to the LM. The group with no work experience had a higher perception of their preparedness for the LM ($M_{\text{marginal}} = 3.34$, $SD = 0.06$; $n = 207$) compared to the group with up to 24 months of work experience ($M_{\text{marginal}} = 3.27$, $SD = 0.08$; $n = 103$). The group with more than 24 months of work experience has the highest scores among all the groups ($M_{\text{marginal}} = 3.57$, $SD = 0.82$; $n = 96$). According to Tukey's *post-hoc* HSD, the significant differences found for this factor occur between the group with up to 24 months of work experience, and the group with more than 24 months of work experience ((CI at 95 per cent) -0.5976 ; -0.0628 ($p = 0.011$)). There is a marginal level of significance for the differences between the group with no work experience and the group with more than 24 months of work experience ((CI at 95 per cent) -0.4626 ; -0.0028 ($p = 0.054$)). However, we observe an interaction effect between work experience and gender ($F(1,400) = 4.59$; $p = 0.01$; $\eta^2 = 0.02$; observed power = 0.78), suggesting that the effect of work experience on perception of preparedness for transition to the LM depends on gender. Figure 1 depicts this interaction, showing a higher gender difference within the group of students with up to 24 months work experience (WE2). To confirm this interaction, we performed a *post-hoc* pairwise comparison with the LSD adjustment, which indicated a statistically significant gender difference within the group with up to 24 months work experience ($F(1,400) = 8.573$, $p = 0.004$, $\eta^2 = 0.02$, observed power = 0.83). The other two level combinations show no statistical significance ($F(1,400) = 1.21$, $p = 0.27$, $\eta^2 = 0.00$, observed power = 0.20), for the combination of gender and the group with no work experience, $F(1,400) = 0.12$, $p = 0.73$, $\eta^2 = 0.00$, observed power = 0.06), and for the combination of gender and the group with more than 24 months of work experience). This interaction effect confirms the main effect found for work experience, but the pattern varies according to gender. Within the group of male participants, perception of preparedness for transition to the LM increases as the length of work

Table II.
Perceptions of
preparation and
expectations of
success in the
transition to the
LM by gender and
work experience

	Male ($n = 199$)			Female ($n = 207$)			Total ($n = 411$)
	WE1 ($n = 104$)	WE2 ($n = 46$)	WE3 ($n = 50$)	WE1 ($n = 105$)	WE2 ($n = 57$)	WE3 ($n = 49$)	
Labour market transition	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Preparation for the transition to the LM	3.28 (0.76)	3.50 (0.96)	3.60 (0.90)	3.40 (0.73)	3.04 (0.82)	3.54 (0.72)	3.37 (0.84)
Expectations of success in the transition to the LM	3.54 (0.84)	3.67 (0.90)	3.64 (0.85)	3.37 (0.87)	3.14 (0.79)	3.59 (0.94)	3.47 (0.87)

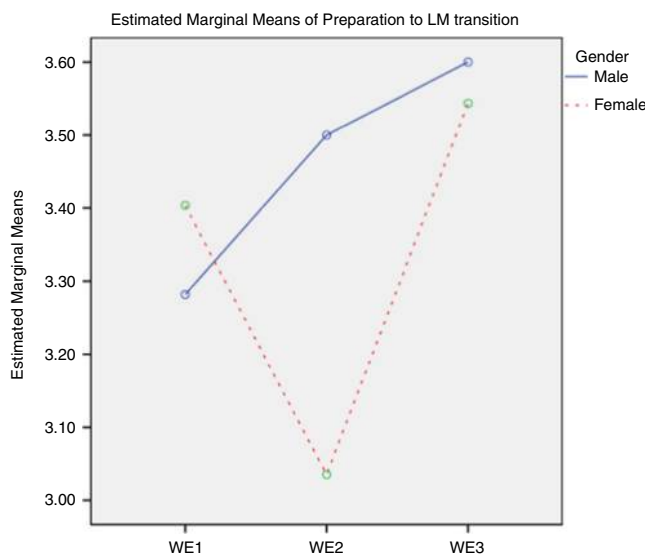


Figure 1.
Interaction effect
between gender and
work experiences on
the perception of
preparation for the
transition to the LM

experience increases (for WE1, $M = 3.28$; $SD = 0.80$; $n = 103$; for WE2, $M = 3.50$, $SD = 0.12$; $n = 46$; and for WE3, $M = 3.60$, $SD = 0.11$; $n = 50$). Within the group of female participants, there is a decrease in the perception of preparedness for transition to the LM for the group with no work experience (WE1, $M = 3.40$, $SD = 0.08$; $n = 104$) and the group with work experience up to 24 months (WE2, $M = 3.04$, $SD = 0.11$; $n = 57$). The group with more than 24 months of work experience has the highest score (WE3, $M = 3.54$, $SD = 0.12$; $n = 46$). Therefore, the main effect of work experience is confirmed only for the group of female students.

In the analysis of expectation of successful transition to the LM, there is a significant main effect of gender ($F(1,400) = 9.857$; $p = 0.00$; $\eta^2 = 0.02$; observed power = 0.88), indicating that expectations of success regarding transition to the LM are significantly higher for male ($M_{\text{marginal}} = 3.62$, $SD = 0.07$; $n = 199$) than for female students ($M_{\text{marginal}} = 3.33$, $SD = 0.06$; $n = 207$). Figure 2 depicts the pattern of the differences between the work experience groupings. The main effect of work experience on the expectation of success in transition to the LM is not significant ($F(1,400) = 0.865$; $p = 0.422$; $\eta^2 = 0.00$; observed power = 0.20). Finally, the interaction between gender and work experience on the expectation of success in the transition to the LM is also not significant ($F(1,400) = 1.75$; $p = 0.18$; $\eta^2 = 0.01$; observed power = 0.37).

Discussion

Students' perceptions about their competencies at the end of their college HE are useful to understand employability issues. Although there are several broad theoretical models of employability (Pool and Sewell, 2007; Yorke and Knight, 2004), there is a tendency to "simplify" the discourse around training for employability, accompanied by a growing trend in HE institutions to make more explicit efforts to develop the "key", "core", "transferable" and/or "generic" skills needed for many types of high-level employment (Mason *et al.*, 2009). Employability needs to focus on the "top competencies" that need to be developed, but also to include the individual – in this case, the student – and her/his beliefs and expectations.

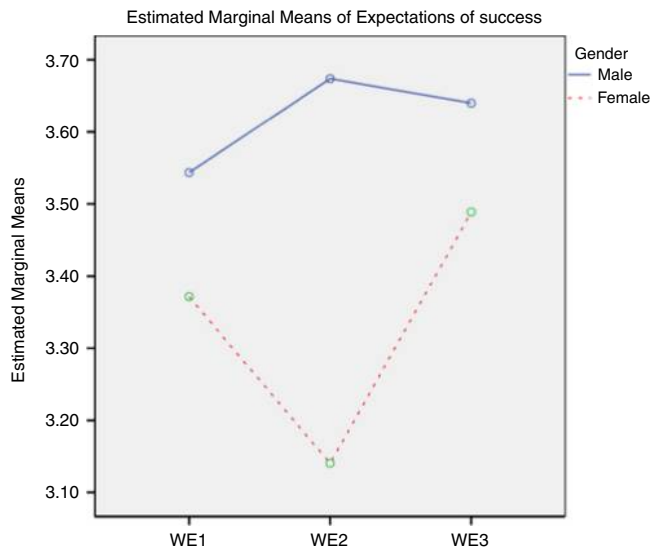


Figure 2.
Main effect of gender
on expectations of
success in the
transition to the LM

According to our study, HE seems to contribute to the development of scientific knowledge rather than the development of practical, transversal, or career competencies. These scientific competencies correspond to specialized knowledge related to the field of study, which can be understood as the base of the training. Allen and van der Velden (2012) discuss the importance of these competencies, claiming that specialized competencies should be included in an interdependent package of skills for the twenty-first century. Here, a score near 4 on a five-point scale represents a positive appraisal from the participants. In contrast, career competencies, which include the ability to search for a job, adaptability to employment, and capacity to make career decisions, is the least well developed area during HE experience. These data suggest the importance of integrating opportunities in HE curricular programmes to enable students to self-manage their career building process, which will enhance their enhancing employability, as proposed by Bridgstock (2009).

For perception of preparation for the LM, and expectations of success in LM transition, the scores are all above the scale mean-point (3.00), suggesting that graduates are reasonably optimistic about entry to the LM. However, these perceptions seem to depend on other factors, beyond the competencies developed during their HE. Despite the generally similar way that male and female students evaluate their competencies at the end of their masters' degree, regardless of their work experience, when work experience is taken into account, they evaluate their preparedness for the LM and expectation of successful transition to the LM differently. The effect of work experience on perception of preparedness for transition to the LM depends on gender, while the observed differences for expectation of success in transition to the LM are apparently related only to gender, with no main effect of work experience. Indeed, the first working experiences seem to have a negative impact on the self-beliefs of women about the transition to the LM. This may be a consequence of the perceived gender discrimination in professional environments (Maxwell and Broadbridge, 2014), with women becoming more aware of gender disparities in the LM. Previous research in professional contexts notes different effects of extracurricular (Stevenson and

Clegg, 2012) and work experience (Tharenou *et al.*, 1994) between men and women, with a more favourable impact on men. The current study highlights the need to be aware and to prevent gender discrimination from first transition to the LM, during HE. This is particularly relevant if considering that current academic success rates during graduation are higher among female students in Portugal (DGEEC, PORDATA, 2015). It enhances the significant differences among academic and professional contexts that interfere on individual success and that need to be addressed since earlier stages of the educational processes.

The findings from this study suggest that self-efficacy beliefs related to LM entry are the outcome of a dynamic rather than a static and straightforward process. The evident effect of work experience on how female graduates perceive themselves concerning LM transition, highlights the need to include individual and organizational variables throughout the work transition process. Different organizational conditions may result in different LM transition processes for males and females, and these specificities should be explored in order to deepen our understanding of LM transition after graduation. Theoretically, this supports the idea of employability as having a bi-dimensional structure, composed of an internal dimension related to subjective and individual factors, and an external dimension related to organizational and LM factors (Rothwell *et al.*, 2008; Vanhercke *et al.*, 2014; Wittekind *et al.*, 2010). The internal dimension of employability throughout the LM transition seems to depend on organizational factors, that should be considered in further approaches in the field, similar to what was concluded by Wittekind *et al.* (2010) in their longitudinal study of the determinants of self-perceived employability.

Concerning practical implications, our findings suggest the importance of practical experience during HE, not only to develop technical and transversal competencies but also to encourage and promote opportunities for students to develop competencies that traditionally have been less valued by academics, employers and students, such as career development competencies, and psychological resources such as efficacy beliefs, students' self-theories and personal qualities, as suggested in the USEM account of employability in Yorke and Knight (2004). Metacognition abilities are a crucial component of graduates' development, since they enable self-awareness and identification of the competencies needed in order to build a career. Some current career management programmes (Pegg *et al.*, 2012) highlight employability opportunities to acquire, exhibit and use generic and discipline-specific skills in work contexts (Bridgstock, 2009). As proposed by Yorke and Knight (2004), good curriculum design should construct understandings of the subject matter and develop skilful practices, but they should also care for the development of positive efficacy beliefs, metacognition, and other complex achievements. Martin and Marsh (2003) suggest that curricula designed to allow students early and regular successful task completion will enable development of stronger self-belief. Further research should explore how different types of practical experience (especially if integrated into the curriculum) affect the development of students' competencies and self-beliefs in order to work in students' advantage.

One of the limitations of this study is related with its methodological design. A longitudinal design would allow a clearer understanding of the influence of contextual factors on self-beliefs related to the transition from university to work. Another limitation is related to the use of a convenience sample from a Portuguese HE institution, which does not allow generalization of our findings to other student populations. Further research should adopt a longitudinal focus with gender control, to

examine possible changes in the perception of competencies and integration into the LM; studying the impact of self-beliefs on professional outcomes (time to finding a job, job satisfaction, income, etc.); and the role of the different competencies – scientific, practical, transversal, career – in professional outcomes.

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