RÉSUMÉ'S INFORMATION AS PREDICTOR OF A JOB INTERVIEW: AN ANALYSIS OF THE APPLICANTS OF A HR CONSULTING COMPANY

by

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Biographic Note

Maria Branco Mendes Granja was born on 29th June, 1994, in Porto, Portugal, where she was raised and where she has lived ever since.

In 2000, Maria started her education in a school where she remained until 12th grade. Her interest in the Economics and Business field started developed in adolescence as her curiosity in the Hotel industry grew. Despite having interests in several areas, at the age of 15, she pursued her studies in the Socio-Economics field.

Her adaptability skills were put into practice as she began her Bachelor's Degree at the School of Economics and Management (FEP.UP), in 2012. She soon realized what the so called *"espírito FEPiano"* was and made this her second home for the subsequent years. During this time, she developed interest in several areas of the socio-economic sciences as she was involved in some student organizations. In 2013, she joined the Pedagogical Department of the Second Year Commission and, in 2014, the Cultural Department of the Direction of AEFEP (Students' Association). Later, in 2015, she joined the Human Resources Department of U.DREAM and it was at that moment that her interest in the human resources area began. That same year, Maria finished her Bachelor degree, with a final GPA of 13.

In order to further expand her knowledge and enhance her academic background, Maria pursued her studies by enrolling in the Master in Management at the School of Economics and Management (FEP.UP), currently achieving a GPA of 15.89. During this time, she joined the Pedagogical Council and started a Curricular Internship at a HR Consulting Company (*Pessoas e Sistemas*). This internship served as a stepping stone to this Master Dissertation.

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Abstract

This study examines the résumé's key determinants of the invitation for a first job interview by using the résumés' database of a Portuguese human resource management consulting company. A sample of 3055 résumés targeted to 40 job offers from 2014 and 2015 form the sample of this study. The résumés were screened for demographic and occupational information in order to access which characteristics determined the invitation for a first job interview. The results showed that certain résumé's characteristics, such as applicant's gender, age, years of work experience, education area, work experience, and situation towards employment, are positively associated to the invitation for a job interview. Overall, recruiters preferred older male candidates, with longer careers, whose education area and work experience were related to the requirements of the job and who were employed while applying. This study provides evidence that, when screening the résumés for a job offer, recruiters make inferences from the candidates' application that are far beyond the factual information presented in the résumé and required for executing the job. This study takes a step forward in establishing empirical evidence regarding which résumé characteristics provide competitive advantage in obtaining job interviews, being one of the few that analyses both factual information of work experience and meeting the job requirements and also the effects of the demographic variables on the selection decisions.

Key-words: Recruitment, Selection, Biodata, Résumé screening, Selection decision, Employability.

JEL-Codes: J24, M10, O15.

Resumo

A presente dissertação estuda os determinantes chave de um currículo para o convite para uma primeira entrevista de emprego, recorrendo à base de dados de currículos de uma empresa portuguesa consultora de recursos humanos. A amostra deste estudo é composta por 3055 currículos direcionados a 40 ofertas de trabalho, entre 2014 e 2015. Foi analisada a informação demográfica e ocupacional dos currículos para perceber que características determinam o convite para uma primeira entrevista de trabalho. Os resultados demonstraram que determinadas características do currículo, como o sexo, idade, anos de experiencia profissional, qualificações, área de educação, experiência profissional e situação face ao emprego, estão positivamente relacionadas com o convite para uma entrevista de emprego. De uma forma geral, os recrutadores preferiram candidatos do sexo masculino, mais velhos, com carreiras profissionais mais longas, cuja área de educação e experiência profissional estivessem relacionadas com os requisitos do emprego ao qual se estão a candidatar e que estivessem empregados no momento da candidatura. Este estudo evidencia que, no momento da análise de um currículo para uma determinada oferta de trabalho, os recrutadores incorrem em inferências a partir da candidatura que vão para além da informação factual apresentada no currículo e requerida para a execução do trabalho. Este estudo avança no estabelecimento de evidência empírica em relação às características do currículo que proporcionam uma vantagem competitiva para conseguir entrevistas de emprego, ao ser um dos poucos que analisa tanto informação factual sobre experiência profissional e o enquadramento nos requisitos da oferta de trabalho, mas também o efeito das variáveis demográficas nas decisões de seleção.

Palavras-chave: Recrutamento, Seleção, Informação Biográfica, Análise curricular, Decisão de seleção, Empregabilidade.

JEL-Codes: J24, M10, O15.

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1. Introduction

In the past decade, many countries have been going through a period of financial and economic crisis. This is reflected not only in every aspect of people's lives but also in countries' economic growth. During times of low economic growth, the unemployment rates soar as companies start to lay off, so keeping a job becomes hard, and finding one becomes even harder. In such a context, every job opportunity may be decisive and, as a result, it becomes important to understand what companies are searching for and what skills they value the most.

Biodata existent in applications is the most frequently used means of pre-selection as it is considered the most effective predictor of job performance (Brown and Campion 1994; Cole, Rubin, Field and Giles, 2007; Knouse, 1988). Biodata corresponds to work experience, education, activities and other life history information contained in résumés and applications. Despite the relevance of biodata for the selection process, less is known on how recruiters make inferences from this type of information through the whole evaluation process (Arnulf, Tegner, and Larssen, 2010; Brown and Campion 1994; Cole, Field, Giles and Harris, 2004; Cole *et al.*, 2007; Knouse, 1988). Hence, understanding how recruiters assimilate applicants' résumé information is critical because deciding not to invite applicants to a preliminary interview is equivalent to a rejection (Cole *et al.*, 2007).

Recent developments have shown that recruiters base their decisions mostly in the content perceived as relevant for the job, but inferences and cognitive attributions about other attributes are also made which may increase or decrease applicants' chances of further consideration (Cole *et al.*, 2004; Cole *et al.*, 2007; Nemanick and Clark, 2002; Thoms, McMasters, Roberts, and Dombkowski, 1999). According to Brown and Campion (1994), biographical information is indicative of technical skills as well as other attributes (e.g. leadership and motivation), and each item included in the résumé can be weighted differently and influence in many different ways the hiring recommendations (Brown and Campion, 1994; Cole *et al.*, 2007). Following Brown and Campion (1994) contributions, other attributes inferred from the résumés were listed and include: candidate's conscientiousness and sociability, cooperativeness and trustworthiness, sincerity and positive attitude, maturity and sense of humour, interests

and extracurricular activities (Brown and Campion, 1994). Despite the inference of these attributes from the content of the résumé, an interview is complementarily important to validate them, especially the motivation and the interpersonal skills of the applicants (Brown and Campion, 1994).

The way recruiters look to each characteristic and weight them depend on the type of job and the required skills (Brown and Campion, 1994; Tsai, Chi, Huang and Hsu, 2011). Yet, when the job requirements are not properly explained or made explicit to allow a precise knowledge of the needed qualifications, this narrows down the match between what is considered a good résumé and the implicit theories about requirements recruiters have for that job (Arnulf *et al*., 2010; Brown and Campion, 1994).

This study originated from a curricular internship of more than 450 hours, undertaken between September of 2016 and January of 2017, in the Porto office of *Pessoas e Sistemas (PeS) – Consultoria em Gestão e Recursos Humanos, Lda*. The internship had the initial purpose of raising the awareness for the daily routine of the company and included the participation in several operational activities, such as participating in the recruitment and selection processes (through résumé screening, LinkedIn search and biographical interviews), joining in Job Fairs, applying psychotecnical tests, taking part in the assessment centres, and completing the applicants' database of 2015. Finishing the database, by inserting pending registers and replacing unfilled information, supported further analyses aimed to portray the typical profile of PeS' candidates. All these activities provided a deeper understanding of the company and the field of human resource management.

Yet, given the theoretical and empirical interest of knowing more about the selection processes and methods, especially regarding résumé screening and pre-selection, this study (and therefore this dissertation) examines the key résumé's determinants of the invitation for a job interview by using the existing pool of candidates of this consulting company. As a result, the remaining activities of the internship are not described in this dissertation as they are not part of this research goal.

The main research question is then - What are the résumé characteristics that can predict an invitation for a job interview? To attain this objective, this dissertation firstly presents a theoretical framework and literature review, followed by the methodology used and finally an outline of the results and its critical analysis.

2. Résumé Screening: determinants of the first interview

Recruitment is the process of attracting and finding the people the company needs, whereas selection is that part of the recruitment process in which it is decided which applicants should be chosen to the job opening (Armstrong, 2009). Selection methods aim to identify the most suitable person for a job opening among the several applications received (Brown and Campion, 1994; Arnulf *et al.*, 2010). Job applications and résumés are the most commonly used instruments at an initial phase of personnel selection and biodata information is the most likely source of first impressions about applicants' employability (Burns, Christiansen, Morris, Periard and Coaster 2014; Brown and Campion, 1994; Cole, Field and Stafford, 2005; Cole, Field and Giles, 2009; Knouse, 1988; Knouse, 1994; Nemanick and Clark, 2002; Tsai *et al.*, 2011). While for job-seekers, the purpose of the application is to gain access to a job interview, for the organizations, it allows a pre-selection of the most promising candidates from a wide pool of different people (Arnulf *et al.*, 2010; Burns *et al.*, 2014; Cole *et al.*, 2005; Cole *et al.*, 2007; Cole *et al.*, 2009; Thoms *et al.*, 1999). Often, the pre-selection methods imply that for every applicant interviewed, there are several who submitted an application but were rejected (Cole *et al.*, 2007). Given the large number of résumés that might be received, the time spent with each one is small and initial impressions are formed in a relatively short period of time (Burns *et al.*, 2014). According to Arnulf *et al.* (2010) recruiters spend no more than 45 seconds on screening a résumé before putting them on a pile labelled "reject", "maybe" or "definite".

In addition to this pre-screening stage, when selection methods are applied, recruiters focus on factual résumé content (e.g. education area, qualifications and reported skills), but also make inferences regarding other subjective applicant's attributes (such as personality and motivation) and then resort to these inferences to evaluate and compare job applicants' employability (Arnulf *et al.*, 2010; Bohnert and Ross, 2010; Cole *et al.*, 2004; Cole *et al.*, 2009; Nemanick and Clark, 2002; Thoms *et al.*, 1999). While these inferences depend on the type of job, they determine the applicant's access to the job interview and influence the subsequent hiring decisions (Cole *et al.*, 2004; Knouse, 1988).

2.1. Biodata analysis as a selection method

For the purpose of this study, biodata is commonly understood as the biographical details usually included in the résumé or Curriculum Vitae (CV) of a job-seeker and go from name, age, gender, residency, among other personal details, to education, work experience and other activities (e.g. extracurricular activities). Sometimes biodata is also assessed through application blanks or multiple choice items, asking respondents to report on past experiences, behaviours or feelings in specific situations (Stokes, 1999).

To date there has been some disagreement on what constitutes biodata and how to describe it, as summarized in Table 1.

Authors	Year	Biodata definition
Mael	1991	items pertain to historical events that may have shaped the person's behaviour and identity
Nickels	1994	biodata items requires people to describe behaviours and events that occurred earlier in their lives
Mount, Witt and Barrick	2000	measure of temperament, assessment of working conditions, values, preferences, skills, aptitudes, and abilities
Breaugh	2009	the reflection of a current or past part of the person's life history
Cole, Field and Stafford	2005	culmination of applicants' life experiences deemed applicable for a work context

Table 1 – Definitions of Biodata
Source: Author's elaboration

As shown, Mael (1991) states that the core attribute of biodata is the historical evidence of the events that might have shaped a person's behaviour and identity, and Nickels (1994) highlights that biodata items require the description of events and behaviours that occurred earlier in candidates' lives. Other authors use biodata items as a measure of temperament, assessment of working conditions, values, preferences, skills, aptitudes, and abilities (Mount, Witt and Barrick, 2000), whereas Breaugh (2009) defines it as the reflection of a current or past part of a person's life history. According to Breaugh (2009), biodata should be defined only in terms of an applicant's past behaviour and experiences reflecting past domain-specific events, such as those occurring in the work context, educational setting, family environment, community

activities or other domains. Basically, biodata represents a culmination of applicants' life experiences deemed applicable for a work context (Cole *et al.*, 2005).

Whereas the issue has grown in importance, an analysis of the biodata items that have been used draws attention to the divergences about what biodata entails. For instance, Breaugh (2009) mentioned the fact that authors like O'Connell, Hattrup, Doverspike and Cober (2002) had focused on applicants' previous positions and number of jobs in the past five years, while others like Lefkowitz, Gebbia, Balsam and Dunn (1999) used biodata items to tap many variables, namely educational experiences, preferences, personality and family history.

In the selection process, when biodata information is analysed, it shows if the person has the required knowledge, skills, abilities and other job required characteristics, as well as individual's interests and personality (Cole *et al.*, 2004; Cole *et al.*, 2005). This is a key screening tool prior to investing in more expensive selection methods, such as job interviews or applicant testing (Cole *et al.*, 2009). Biodata has also been used to predict other factors, such as training success, performance, absenteeism, turnover, proficiency ratings, delinquency, substance abuse, promotion, achievement and accidents (Breaugh, 2009; Stokes, 1999).

2.2. Biodata analysis as an inference tool

In order to examine recruiters' use of biodata for making applicant screening decisions, Brown and Campion (1994) investigated the perception of abilities and other attributes mentioned in the applicants' résumés. They asked recruiters to rate a list of 22 categories of items typically included in the three main résumés' sections: education (six categories), work experience (six categories) and activities/interest/honours (ten categories). Overall, 113 human resource recruiters and line managers were asked to rate the degree by which the items reflected the ability attributes of two separate jobs (e.g. sales and accountant) and to judge whether the items were useful for screening the applicants. The findings revealed that language and math abilities were seen mainly from education-related items, physical ability was seen from sports-related items, leadership and interpersonal attributes were seen through items that reflected having held positions of authority, interpersonal skills were inferred from items reflecting activities of a social nature and, finally, almost all items told something about motivation and were considered useful (exceptions were for foreign language,

recreational sports and social fraternity). During the simulation, recruiters rated biodata as reflecting both ability and other personal attributes, which were judged with equal reliability. They distinguished the items in terms of what attributes they represented. Also, the attributes judged differed depending on the job: more language and interpersonal attributes perceived when considering a sales jobs and more math perceived when considering the accounting job. The findings of this research highlight applications' higher attractiveness when the résumés contain the biodata required by the position and related to recruiters' implicit theories for the job.

In another major study, Knouse (1994) analysed the impact of the relevance of the information contained in the résumés regarding education, previous experience and impression management techniques. The main research question of this study was whether appropriate biographical information to the job being sought produced more positive perceptions of the applicant than inappropriate information. Recruiters were asked to read a hypothetical résumé for a job opening and to rate the relevance of education and job experience, as well as to rate the applicant's attempts to impress the reader, notably the impressiveness and believability of the résumé. The main results of this field experience showed that when education and job experience were deemed appropriate to the prospective job they enhanced the readers' perceptions of the applicant, once both reflected the competence and potential of the applicant. Furthermore, there was a compensatory effect, which meant that relevant credentials in one area tended to compensate for weaker credentials in other area. Complementarily, impression management appeared to increase perceptions of applicant's interpersonal skills and self-confidence, and influenced positively the perception of employability. Knouse (1994) stated that the increased desire for a background check could be a positive sign, even if it was a consequence of impression management statements. This happened because the impression management statements used were perceived to be reasonable and, therefore, helpful for evaluating the applicant more fully (Knouse, 1994). However, exaggerated techniques (for example, adjectives such as "excellent", "extremely hardworking", "energetic", "sharp", "informed", "loyal") may have the opposite effect (Knouse, 1988).

Thoms *et al.* (1999) conducted a more general investigation of the résumé characteristics used as predictors of an invitation for a job interview among US business

professionals and Human Resource MBA students. The main predictors were length of the résumé, objective statements and list of coursework, GPA and existence of accomplishment statements. These aspects were turned into hypotheses to be tested. The only indicator that was not significant was the one related to the objective statements. In general, US recruiters preferred one page résumés, with a list of relevant coursework. They also preferred applicants with a high GPA (3.0 or higher) who included accomplishment statements in their résumés. Regarding objective statements, general statements were slightly better rated than no statements but résumés with specific statements resulted in more first choices than the ones with general objective statements.

Nemanick and Clark (2002) studied the implications of the extracurricular activities on inferences made by recruiters, using three main characteristics: number of activities, holding positions of leadership and relevance of the activities. The study was conducted to see if these characteristics had independent main effects and also combined effects on the perception of applicants' quality and on the recruiters' recommendation to interview the applicant. Factors like GPA, gender, college, and type of job, overall appearance and length of the résumés were standardized. The authors concluded that the number of activities and holding leadership positions had a great effect on the recommendations. Regarding the relevance of the activities, it was shown that business-related activities were rated higher than social-related ones. Applicants that were leaders in two organizations and those who were not leaders but belonged to five organizations were better rated than the applicants who belonged to fewer organizations and who were leaders in none. The major conclusion of this investigation suggests 'the more the better', which means applicants are better rated if they integrate more extracurricular groups and if they achieve as many leadership positions as they can in all of them, regardless of the type of activities. Thus, the variables influence the judgements together and separately, since these applicants were perceived as having better skills in communication, decision-making and teamwork. Additionally, if applicants managed to hold positions in several organizations they would be perceived as more well-rounded since these organizations are a mix of business and social related activities. While these suggest that the more activities a person joins and the more leadership positions held, the higher the employability chances, "real graduates"

combining all this (i.e. having a high GPA while leading many organizations and having work experience) are unlikely to be found. In spite of recruiters' interest, a candidate like this would be most likely resorting to impression management strategies, so future research would benefit from using real résumés and job applications.

Other studies approached the perceived relationship between the information contained in the job applications and candidates' personality. For instance, Cole *et al.* (2004) investigated the relationship between the inferences drawn about applicants' personality and the type of jobs they were applying to. To assess this, recruiters were asked to analyse US University students' résumés and answer four questions: if they were interested in interviewing the applicant, if they would recommend the applicant to be hired, how the applicant would succeed and, in the end, an overall evaluation. The authors used the model, idealized by Ernest Tupes and Raymond Christal in 1961 and later developed by Digman and Goldberg in the 90's (Goldberg, 1992), composed by five personality traits: conscientiousness (determined, goal-oriented, reliable and scrupulous), openness to experience (intellectually curious and imaginative), neuroticism (fear and embarrassment), extraversion (sociable, active and talkative) and agreeableness (likable, cheerful, adaptable, cooperative). Using the Big Five Personality theory (Goldberg, 1992), two hypotheses were tested regarding conscientiousness and extraversion and the type of jobs to which these characteristics were related (conventional jobs and enterprising jobs, respectively). The results showed that the type of job opening moderated the relationship between recruiter inferences of applicant personality traits and judgements of applicant employability. In other words, both hypotheses were confirmed. So contentious proved to be important for judging the employability in conventional jobs (like accounting and finance), that requiring handling with numbers and attention to detail, while extraversion was associated with the employability in enterprising jobs (like marketing and human resources), that require interpersonal skills. In addition, applicants perceived to be low in conscientiousness received low ratings regardless of job type. On the whole, Cole *et al.* (2004) showed the importance to take into account the Person-Organization fit by selecting applicants with personalities and values congruent with the organization. These results are consistent with the research previously done by Brown and Campion (1994) regarding applicant suitability for jobs in sales and accounting.

Another study about the interaction effects of résumé content with hiring recommendations was conducted by Cole *et al.* (2007). This study was aimed to extend our understanding of how recruiters look and interpret résumé information, such as education, work experience and extracurricular activities, when forming initial impressions of employability. They assessed both level of importance and actual presence of these contents. Hypotheses were drawn to examine the effects of these three categories and how they interacted and correlated with recruiters' perceptions of applicants' employability. Recruiters who participated were asked to analyse US University students' résumés and indicate the extent to which each item influenced their decisions, if they would be interested in interviewing the applicant and also their overall evaluation. Some characteristics were used as control variables to reduce bias on the effects, such as applicants' academic major and gender. The findings revealed that education and extracurricular activities were positively associated with employability ratings. Furthermore, recruiters' perceptions of applicant employability depended on the interactions between the three categories of information, so that existing different combinations of résumé content received equally high employability ratings. This is one of the most interesting conclusions of this investigation. For example, applicants' résumés judged to be high (low) in all categories were also ranked the highest (lowest) in employability. Education was the strongest predictor once it led to a higher employability ranking despite the level of the other two categories. But, for example, low education combined with high work experience and extracurricular activities turned into a perception of high employability. This study shows that recruiters not only look for the presence of items but also consider the importance of specific items for successful job performance (Cole *et al.*, 2007).

These findings were complemented by Cole and colleagues (Cole *et al.*, 2009) who further examined the process of inferring applicants' personality and employability from the content of the résumés. The authors compared applicants' self-reported personality evaluation with recruiters' evaluation of the same applicants. The general pattern of results indicated that the recruiter's ratings of applicants' extraversion, conscientiousness, openness to experience and agreeableness were hardly related to self-reported assessments, showing they were unable to correctly infer applicants' personality from the résumé information. Of the Big Five personality dimensions,

recruiters' most reliable inferences referred to was extraversion, since it is highly visible in résumés, contrary to conscientiousness and openness to experiences, which were considered to be more internal traits (Cole *et al.,* 2009). In fact, recruiters' inferences of applicants' neuroticism and agreeableness from the content of the résumés exhibited negative validity coefficients. In conclusion, hypotheses regarding reliability and validity of recruiter's inferences of applicants' personality were only limitedly supported. A relationship between high conscientiousness, extraversion, openness to experience and positive employability assessments was also hypothesized. Results suggest that when recruiters form impressions regarding applicant employability, they use certain résumé items to conclude on personality attributes of applicants. Successful applicants were those perceived as being responsible and attentive to detail, who were willing to try new things, and possibly enjoy friendly and frequent interactions with others (Cole *et al.,* 2009).

Arnulf *et al*. (2010) on the other hand, studied the impact of the layout in the possibility of being shortlisted, by testing if a formal résumé on white paper was preferred to a formal résumé printed on coloured paper or to an "artistically arranged" résumé. They concluded that purely aesthetic aspects could influence the decision to shortlist a candidate when recruiters interpreted negatively graphical presentation. Sometimes this happens because recruiters are unsure and have not enough information about the job and knowledge about its success factors and also because the ranking of candidates is based on a total impression of each application rather than a strict comparison based on relevant criteria (Arnulf *et al.,* 2010). They also showed that, when decisions were made, professionals were less influenced by the layout than non-professionals (students), which indicates that the efforts of expertise are moderated by the professional context (Arnulf *et al.,* 2010).

In the XXI century, technology is all around and has been simplifying all daily activities. The emergence and increased use of personal web sites and Social Networks (SNW) are having an impact on personnel selection. Recruiters are increasingly using these tools to attract and screen job applicants in combination with the traditional methods, such as the application letter and résumé. Bohnert and Ross (2010) stated that recruiters sometimes search specially for information and online posts that are family, professional and alcohol-oriented. In their study, the authors asked 145 US University

students to assume the role of a hiring manager and further evaluate a white male applicant. They were asked to assess how well qualified the applicant was, how likely it would be to interview him, how likely it would be to offer him the job, what would be his starting salary, and also which was the factor that most influenced the decisions. Bohnert and Ross (2010) found that both résumé and social networks influenced evaluations and that the age of the rater did not influence the evaluation in two situations: if they found unprofessional web sites of the applicant or if the students have previously posted on their own web sites information about themselves drinking alcohol or abusing drugs. Those who reported that social network information was the most important factor influencing their evaluations gave the lowest evaluations to applicants with the alcohol-oriented web site and gave higher evaluations to applicants with family-oriented or professional-oriented evidences (Bohnert and Ross, 2010). Finally, the authors found that an unprofessional web site could significantly decrease a candidate's chances of being hired and could even result in a lower salary offer, while a professional or family-oriented web site could increase applicant's attractiveness (Bohnert and Ross, 2010).

More recently, the research of Huang and colleagues (Huang *et al.*, 2013) complemented earlier findings about the inferences and interpretations recruiters make of reported work experience. They examined not only quantitative components, such as tenure and job breadth, but also qualitative components, like leadership experience and challenging job experience. They investigated the possible implications of each component in professional knowledge, interpersonal skills, general mental ability (GMA) and conscientiousness. They hypothesised that job tenure, leadership experience and a challenging job experience would be the most important components of work experience when recruiters judge the extent of applicants' job-related knowledge; leadership experience would be the most important component of work experience when recruiters judge the extent of applicants' interpersonal skills; job breadth, leadership experience and challenging job experience would be the most important components of work experience when recruiters judge the extent of applicants' GMA; and leadership experience and challenging experiences would be the most important components of work experience when recruiters judge the extent of applicants' trait of conscientiousness. Recruiters' characteristics such as age, gender, selection experience

and selection training were included as covariates, as they might be related with evaluations. The authors asked the 62 recruiters from 30 firms of different industries to review fake résumés and answer a survey regarding résumé contents and aesthetics, recruiter-perceived applicant characteristics, recruiter-perceived applicant physical attractiveness, hiring recommendation, recruiters' positive moods and also rate the degree to which the applicant had held a job for a long time, had held many types of jobs, had held leadership positions for a long time and had held a significantly challenging job (Huang *et al.,* 2013*).* The main study findings showed that job tenure was related to perceived job-related knowledge, interpersonal skills and conscientiousness, but negatively related to perceived GMA. Leadership experience predicted recruiters' perceptions of applicants' job-related knowledge, GMA and conscientiousness, but not interpersonal skills. Results also showed that challenging job experiences were positively related to recruiters' perception of applicants' interpersonal skills. However, findings did not support positive relationship between both job breadth and perceived GMA and job-related knowledge (Huang *et al.*, 2013). Overall, this study shows that work experience is a more complete and relevant item than conceived earlier (e.g. Cole *et al.*, 2007) and all included dimensions should be taken into account.

Recently, Bertolino and Fraccaroli (2013) also explored how younger and older employees are seen and thought to behave in the workplace. They examined whether workers in different age groups were perceived differently in terms of the Big Five Personality Traits (BFPT), whether there were perceived differences in the task and contextual performance of these groups and how age stereotypes influenced the perceived personality and job performance. The authors also determined how these links were moderated by the rater's age. This study targeted 155 administrative employers of a school in northwest Italy, who were asked to indicate the extent to which a list of phrases described younger or older people. The authors found that there was no consensus regarding the definition of "younger worker" and "older worker", so for the purpose of the investigation the age of the youngest were grouped between 24 and 34 years old, while the age for the eldest were grouped between 55 and 65 years old. The results showed that both groups were perceived differently in terms of BFPT and job performance (both task and contextual), and that the results were moderated by raters' age, as expected. The findings suggest that most of the stereotypes favoured older

workers, since they were perceived more positively than younger workers on most dimensions (conscientiousness, emotional stability and agreeableness) and also in terms of organizational citizenship behaviours (Bertolino and Fraccaroli, 2013). Furthermore, older and younger raters tended to evaluate their peers more positively, evidencing intergroup bias (Bertolino Fraccaroli, 2013). An unexpected interaction was found for openness to experience, since both older raters and younger raters perceived their own peers as higher on openness (Bertolino and Fraccaroli, 2013). Yet, practical results did not show actual differences in task performance when comparing the two age groups.

Overall, the research to date has revealed the importance of résumé content to draw recruiters' inferences about the candidates' adequacy. Previous accounts also report the potential of biases, even among experienced recruiters, related to their own personal characteristics.

2.3. Critical analysis of earlier research

In spite of the contributions of earlier research to provide a general understanding of recruiters' perceptions and inferences from the information included in the résumés, it has been subject to some limitations. Most previous studies were done with participants and applications of undergraduate students or recent-graduates, so one of the main restrictions is their limited generalizability to a working population. However, earlier findings (e.g. Bohnert and Ross, 2010; Burns *et al.*, 2014; Cole *et al.*, 2004; Cole *et al.*, 2007; Cole *et al.*, 2009; Nemanick and Clark, 2002; Thoms *et al.*, 2009) remain a positive reference since students' groups are considered a proxy for professional judgements about applicant's screening (Nemanick and Clark, 2002; Cole *et al.*, 2005). Also, the range of job postings used by earlier studies has been limited (often to business jobs) and fictional, which again might undermine the external validity of the findings. Future research would benefit from using a more diverse set of academic majors and unqualified jobs and employ actual applicants' résumés. To raise the external validity of these studies, it is also important to select recruiters randomly, because when there are interests at stake, results will most probably be biased (Thoms *et al.* 1999

Another limitation of previous studies is the unnatural way recruiters evaluated biodata. Most of them knew they were being used as part of a study and, whether or not

they know its aim, they might have engaged in "hypotheses guessing" (Brown and Campion, 1994), which might have influenced the decision-making process.

Finally, another methodological limitation refers to the way recruiters were asked to rate the résumé information, by referring first to items presence/absence and later to their relative importance given the presence of other items. While Cole *et al.,* (2007) noted that most recruiters might employ an alternative ordering when making actual judgements, earlier studies employ a hypothetical ranking rather than real-life assessments. Therefore, there is still insufficient understanding of the process underlying recruiters' judgements and its effectiveness in predicting applicants' future job performance, which is accrue by an incomplete knowledge about the key skills required to perform the job.

2.4. Hypothesis development

Given résumé's crucial input into the selection process, there is an abundance of advice from recruiters and academicians on how to construct an impactful résumé (Knouse, 1994). As a result, there are job-seekers who detail every aspect of their résumés and include everything they have ever done, while others try to keep it as simple as possible, going straight to the main points. These differences are largely influenced by the lack of information on the aspects that the recruiters see as being the best to stand out one's abilities and competences, and how the information inferred from résumés may lead to a better candidate fit (Knouse, 1994). For instance, Brown and Campion (1994) identified two types of attributes usually presented in résumés: ability attributes, that represent basic human capacities (such as language, math and physical attributes), and other attributes, which include interpersonal attributes, leadership and motivation. While they showed biodata was an indirect measure of the interests, values, preferences and personality traits of the job applicants, Arnulf *et al.* (2010) argued that only the content of the résumé should be of interest for analysing the job fit of a candidate. Recruiters devalue missing information and favour candidates with complete information (Arnulf *et al.*, 2010; Cole *et al.*, 2004; Tsai *et al.*, 2011) but, at the same time, they prefer typed and short résumés, with no more than two pages, that contain the most important highlights of past activities (Arnulf *et al.*, 2010; Cole *et al.*, 2004; Thoms *et al.*, 1999; Tsai *et al.*, 2011). Usually, they weight negative information more than they value positive information, in the overall assessment of candidates'

employability (Arnulf *et al.*, 2010; Cole *et al.*, 2004; Cole *et al.*, 2007). Following these findings and knowing that recruiters use applications to infer specific skills and abilities, job candidates try to appeal to a broader audience and compensate some particular weaknesses, enhancing recruiters' perceptions through impression management (Thoms *et al.*, 1999). In other words, impression management is the process used by individuals attempting to control the image a person projects in social interactions (Knouse, 1988) and, in the recruitment context, the impressions recruiters form about them. While most of the résumé's content is objective (directly verifiable), thus limiting self-presentational tactics such as embellishment of credentials, the content of the application or motivational letters is not, which is more subject to embellishment (Knouse, 1994; Waung, McAuslan, DiMambro, & Mięgoć, 2016). Yet, this does not work as expected when inflated (e.g. exaggerated adjectives describing the candidate, self-enhancement and entitlements), resulting in negative dispositional attributions (Knouse, 1988; Knouse, 1994; Waung *et al.*, 2016). On the other hand, when it is focused on accomplishments and consistent with other information about the candidate, makes him or her seem attractive and credible (Thoms *et al.*, 1999). Perceived sincerity may moderate the effectiveness of attributional statements in some organizational settings because employers are often suspicious of personnel claims of success made in résumés (Knouse, 1988) and application letters (Waung et al., 2016).

Many candidates may increase their chances of being shortlisted by altering the information content of résumés, but they can also manipulate the aesthetic aspects of it. In order to overlap the lack of relevant content, candidates may feel tempted to draw attention to themselves by impressing recruiters through visual aids and creativity in the layout, since this characteristic is frequently asked in many job openings. The success of these practices depends on the culture of the country of such job position. For some more formal companies, these creative layouts may be seen as indicating lack of taste and unnecessary risk-seeking communication (Arnulf *et al.*, 2010). Some authors (Cole *et al.* 2004; Cole *et al.* 2005; Cole *et al.* 2009; Bertolino and Fraccaroli, 2013; Burns *et al.*, 2014)) also claim that cues regarding applicant's personality are perceivable through information contained in résumés and from there recruiters predict candidates' characteristics and work-related behaviours by relating them with the Big Five Personality Traits (Goldberg, 1992). Cole *et al.* (2004) studied the relationship between

the inferences of applicant's personality drawn from the biographical information contained in the résumé, as well as recruiters' ratings of applicant's employability, predicting that it would depend on the job. The findings confirmed that for conventional jobs, such as accounting, finance and management information systems, people more hardworking, organized, responsible and systematic (high in conscientiousness) were preferred; while for enterprising jobs, such as marketing, human resources management and business administration, people who were more enthusiastic, sociable, energetic (and high in extraversion) got higher hiring recommendations (Cole *et al.*, 2004).

Other authors, such as Nemanick and Clark (2002), applied social cognitive theories when trying to explain how résumé content is used to guide recruiters in the screening process. Attribution theory posits that people rely upon explanations of behaviour that are either internal (dispositional) or external (situational) attributions (Huang, Chen and Lee, 2013; Knouse, 1988). Applied to the recruitment context, the recruiter who reads the information listed on a job application would make casual inferences about applicant's traits, abilities, motivation and personality and from that draw conclusions about applicant fit, according to the needs of the job offer. This way is easier for the recruiter to predict how successfully the applicant would perform and to influence the decision to invite him or her for an interview (Nemanick and Clark, 2002). The signalling theory also suggests that people draw an inference based on available information when they have incomplete data or feel uncertainty towards the target of interest (Huang *et al.*, 2013). In practice, many recruiters often engage in the fundamental attribution error (Ross, 1977) by drawing conclusions about the presence or absence of some information in the application and relating that with applicants' dispositional factors. In other words, in screening the résumés and judging candidates job adequacy, recruiters often underestimate the influence of contextual variables (e.g. lack of employment opportunities) and overestimate candidates' dispositional traits (low goal-orientation and determination to find a job).

Stereotypes are the result of associations between attributes (e.g. personality characteristics, behaviours) and social categories (e.g. gender, age groups, types of job). Many stereotypes and subsequent judgemental biases are gender related. For instance, strong dispositional attributions toward male applicants give the idea they possess better competences, and, for example, towards attractive women, if a photograph is attached to

the résumé (Knouse, 1988). The gender of an applicant may also be seen as indicative of personality: men are often stereotypically perceived as competent and dominant, while women are seen as expressive and warm (Davidson and Burke, 2000). Therefore, in judging applicants' suitability, men and women candidates would be considered more appropriate for certain occupations than others, called traditional gendered-occupations, depending on the gender-fit with the job characteristics (Davidson and Burke, 2000). This stereotype assumption may lead some employers to be reluctant to hire women or men for occupations that are not consistent with their respective traditional occupations (Knouse, 1988) or to high-status occupations when qualities thought to be necessary for these occupations are gendered (Davidson and Burke, 2000). Also, as men.36 can be perceived as generally more competent (Knouse, 1988), one can hypothesize that:

H1: Applicants' gender will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer male applicants.

In recent years, as average life expectancy has increased, the workforce has diversified in age, and older and younger people are more likely to interact in the workplace. According to Bertolino and Fraccaroli (2013), stereotypes can influence work decisions and can be based on two relevant work-related dimensions: personality and performance at work. Age stereotypes may affect perceptions of older and younger workers, with different age groups rated differently on several dimensions, and perceptions of older and younger workers may be affected by the age of the rater and vary according to the target job (Bertolino and Fraccaroli, 2013). Bertolino and Fraccaroli (2013) found that most stereotypes regarding conscientiousness, emotional stability, agreeableness and organizational citizenship behaviours (towards individuals and organizations) favoured older workers, so one can predict that:

H2: Applicants' age will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer older applicants.

Older employees usually have a longer work experience, therefore these years of work experience can also be object of inferences. Individuals' experience performing tasks can be measured in different ways: the number of times they have been performed, type of tasks performed and time spent performing them. The literature revealed that most researchers used a time-based measure of experience (e.g., years of work experience) and that the relationship between work experience and job performance was

positive regardless of the measures of work experience used (Quińones, Ford and Teachout, 1995). Therefore, in appraising the applicants who are likely to perform better, recruiters will choose those who have more years of work experience, as predicted:

H3: Applicants' years of work experience will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants with more years of work experience.

Most researchers and human resources managers agree that the two most important sections of the résumé are education and job experience. Thus, according to Knouse (1994), it is possible to match educational accomplishments of the applicant with job requirements, for instance by trying to discern the level of competence from the reputation of schools attended or even the motivation level based on the duration of education. Brown and Campion (1994) also showed that the most attractive applications were those that contained the biodata reflecting job attributes. In this context, recruiters would prefer applicants with higher qualifications believing they would be more suitable than the ones less qualified (Renwick and Tosi, 1978). Therefore, in appraising the applicants who are likely to be best job-suited, recruiters will choose those who are more qualified, as predicted:

H4: Applicants' education will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants with higher education.

Apart from comparisons between educational accomplishments and job requirements, recruiters also attempt to compare the job titles, duties and responsibilities of the applicant's previous jobs with the requirements of the job posting, with the purpose to assess how closely the past work experience matches the needs of the future job (Knouse 1994). Thus, readers' perceptions of the applicant's job suitability were enhanced when education area and professional experience were deemed appropriate to the new position, since it reflected applicant's competence and potential (Knouse, 1994). Therefore, one proposes the following hypotheses:

H5: Applicants' education area will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants from an education area related to the job requirements.

H6: Applicants' work experience will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants with work experience related to the job requirements.

Portugal is the fourth European country concerning the time spent commuting from home to work, with an average of 42 minutes per journey, slightly below the European average of 45 minutes (Jornal i, 2014). Other analyses (Câmara Municipal do Porto, 2014) confirm Portuguese preference for work geographical proximity, despite an increase of inter-municipal mobility. Because the average wage in Portugal (for 2015) was lower than 1 000€ (PORDATA, 2017), this might further explain workers unavailability to commute. Therefore, in appraising the applicants who are likely to be more attractive, recruiters are more likely to choose those who live near the job place, as predicted:

H7: Applicants' residency related to the job requirements will be associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants that live closer to the job place.

As aforementioned, recruiters often use the information at their disposal to infer how the future employee will perform in a certain job. One of the observable items from which recruiters extract information is the applicant's situation towards employment. Literature shows that unemployed job seekers have lower contact probability and receives fewer contacts than an otherwise identical employed job seeker (Eriksson and Lagerström, 2006). This happens because unemployed applicants are perceived as being less productive and less skilled (Eriksson and Lagerström, 2006), and unemployment is perceived as a sign of demoralization and obsolete job skills (OECD, 2016). Therefore, one can hypothesize that:

H8: Applicants' situation towards employment will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer employed applicants.

2.5. Theoretical Model and Hypotheses

The present study aims to empirically examine the key résumé's determinants of the invitation for a job interview by using the résumés database of a Portuguese human resource management consulting company. Based on the literature, one would expect that the decision to invite an applicant to a first interview will be dependent on

applicant's: (1) gender; (2) age; (3) years of work experience; (4) education; (5) fit between the education area and the job requirements; (6) fit between the work experience and the job requirements; (7) residency; and (8) the applicant's situation towards employment. Figure 1 sums the theoretical model and hypotheses.

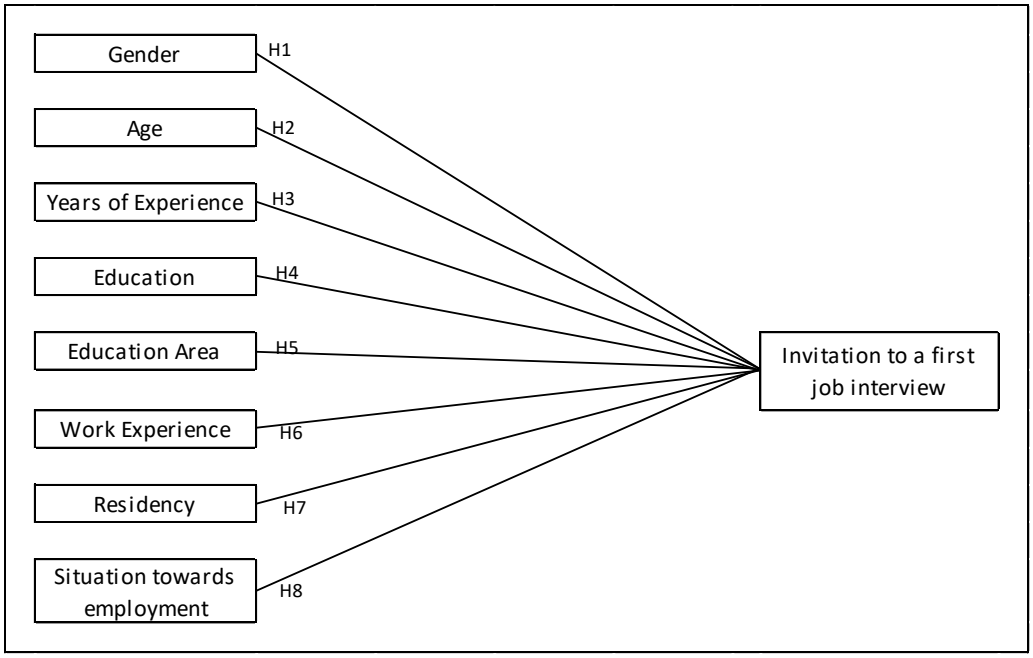

Figure 1 - Theoretical model and hypotheses

Biodata:

H1: Applicants' **gender** will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer male applicants.

H2: Applicants' **age** will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer older applicants.

H3: Applicants' **years of work experience** will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants with more years of work experience.

H4: Applicants' **education** will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants with higher education.

Applicant-job fit:

H5: Applicants' **education area** will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants from an education area related to the job requirements.

H6: Applicants' **work experience** will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants with work experience related to the job requirements.

H7: Applicants' **residency** related to the job placement will be associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants that live closer to the job place.

Situational biases:

H8: Applicants' **situation towards employment** will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer employed applicants.

3. Methods

3.1. Procedures of Data Collection

The present study uses the résumés database of a consulting company which contains information of its applicants. So the process of data collection was achieved by being part of the company for several months, in an internship context, and by having completed the registers and updated the database in due time.

The empirical analysis undertaken in the present study aims to assess which résumé information was most attractive and valued by the company recruiters, determining the decision to invite the applicants' for the next selection stage – the job interview. The original résumés database (in Excel) contained the following sets of information: (1) demographic details such as name, gender, birthday, phone number, e-mail address and residence; and (2) information regarding the professional situation of the applicants, such as education, education area, situation towards employment, years of work experience and work experience. It includes all applications received between 2014 and 2015 in response to the announced job openings as well as spontaneous applications. To proceed with the quantitative analysis, some changes were needed. Firstly, all personal information (name, phone number and e-mail address) were removed for confidentiality reasons and because they were unnecessary for the purpose of the present study. The remaining personal information, such as age and residency, were standardized (e.g. in years of birth and districts) to facilitate the analysis. Secondly, because the information regarding education areas and work experience were too diverse these fields were grouped into categories (for example, Economics, Business & Administration, Marketing, Multimedia & Communication). Because the applicants registered in the database applied for different positions, the analysis also involved the identification of applicants' characteristics according to the job requirements. For this, all job descriptions from the company's job openings between 2014 and 2015 were collected and listed. For the spontaneous applications, no changes were made since there were no specific job requirements.

3.2. Measures

With the main variables identified, they were then coded, as follows. Gender was coded as a nominal and dichotomized: (1) corresponds to the feminine gender and (2) corresponds to the male gender.

In order to accomplish more conclusive results in the non-parametric tests, age was grouped and coded as ordinal variable: (1) less than 30 years, (2) between 30 and 40 years and (3) more than 40 years.

Years of work experience was set in intervals and therefore coded as ordinal variable: (1) Less than five years of work experience, (2) Between five and ten years, (3) More than 10 years and (99) Not mentioned.

Education was also a coded as an ordinal variable in which (1) 12^{th} grade or less, (2) Graduated and Post-Graduated and (3) Other.

Regarding education area, a reorganization of the existing extensive categories was required in order to accomplish more conclusive results in the non-parametric tests, so a new nominal variable in which (1) corresponds to education area related to the job requirements, and (2) education area not related to the job requirements, was created.

With the same purpose, work experience's several categories were also reorganized in a new nominal variable in which (1) corresponds to work experience related to the job requirements, and (2) work experience not related to the job requirements.

The residency was turned into a coded nominal variable that includes 3 categories: (1) Porto, (2) Lisbon and (3) Others.

Situation towards employment was a nominal variable that was coded into (1) Unemployed, (2) Employed, (3) Freelancer, (4) University Attendance, (5) Searching for a first Job and (99) Not mentioned.

Although, not included in the hypotheses, three additional variables were created for a descriptive analysis purpose. The job offers were divided in job areas, job level, job places and company industry. Job area was a nominal variable coded into (1) Human Resources, (2) Marketing, (3) Finance, (4) Commercial, (5) Logistics, (6) Maintenance, (7) Accounting, (8) Purchases, (9) Export, (10) Production, (11) Quality, (12) IT and (99) Not available. Job level was a nominal variable coded into (1) Factory worker, (2) Staff, (3) Direction, (4) Intermediate management, (5) Team management,

(6) Technician and (99) Not Available. Job place was a nominal variable coded into (1) Porto, (2) *Matosinhos*, (3) *Paços de Ferreira*, (4) *Trofa*, (5) *Viana do Castelo*, (6) *Grande Lisboa*, (7) *Grande Porto*, (8) *Maia* and (99) Not Available. Company industry was a nominal variable coded into (1) Cooling equipment, (2) Car & Car Components, (3) Food, (4) Individual Protection Equipment, (5) TIC & IT, (6) Construction Equipment/Vehicles, (7) Fuel Distribution, (8) Construction and (99) Not Available.

Finally, the invitation for a job interview was dichotomized, in that (0) corresponds to candidates that did not go to an interview and (1) corresponds to candidates that were interviewed by the company's HR consultants.

3.3. Sample

This study examines the key résumé's determinants of the invitation for a job interview by using the résumés database of a Portuguese human resource management consulting company. The database contained curricular information about 3055 applicants. Over the reference period, 2014-15, the company performed the recruitment and selection for 40 job openings. These jobs were offered by Portuguese companies located in different regions and represented a variety of industries, including automotive, food, IT, construction and textile, among others. Over this period, one candidate applied in 2013, 1297 applied in 2014, 1310 applied in 2015 and 418 applied in 2016 (for job announcements of 2015), which correspond to 0%, 42.5%, 42.9% and 13.7%, respectively. For the remaining 29 applicants (0.9%) there was no information regarding the date of the application.

According to Appendix 2, 61.8% of the candidates were male (*N*=1888) and 38.2% were female (*N*=1167). Applicants' average age was 35.29 years (with a *SD*=8.5 years), ranging from 18 to 65 years old. Several candidates (*N*=491, 16.1%) did not mention their age. The great majority of the applicants were from Porto (*N*=2 001; 65.5%) and none of the remaining districts exceeded 10% of the applicants, although 6.2% (*N*=189) did not mentioned the place of residence. Regarding education and education area, most applicants were graduates (*N*=1792; 58.7%) in Engineering (*N*=762; 24.9%), but 17.6% (*N*=538) had no higher professional education. Regarding the applicants' situation towards employment and years of work experience, most candidates were employed (*N*=1453; 47.6%) and working for more than ten years (*N*=1611; 52.7%). Applicants with jobs in Accounting, Finance, Auditing and Tax

represented the main occupational areas (*N*=543; 17.8%), followed by Economics, Business and Administration (*N*=336; 11%) and Marketing, Communication and Multimedia (*N*=337; 11%). Given the Appendix 2, the majority of the people that applied for a job opening did not get an invitation for a first interview since only 15.5% (*N*=474) were invited while 84.5% were not (*N*=2581).

Regarding the job openings announced by the company, the positions that had more applications were for Export Manager (*N*=249, 8.2%) and Controller (*N*=247; 8.1%). The positions represented a variety of job areas and functional levels, such as marketing (*N*=587; 19.2%), which was the area with more job offers, while staff (*N*=1241; 40.6%) and intermediate management (*N*=918; 30%) were the most common job levels. Regarding the companies' sector and location, in this period, the ones that looked for more applicants were manufacturing companies of cooling equipment's (*N*=925; 30.3%) and food (*N*=716; 23.4%), mostly located in the region of *Grande Porto* (*N*=1984; 64.9%).

Overall, the prototypical jobs sought over the period of 2014-15 were in the marketing area and for staff and intermediate management positions. The prototypical applications received in the same period were from men, with around 35 years, from Porto, graduated in Engineering, employed, working for more than ten years and working in Finance, Auditing and Tax or Economics, Business and Administration.

3.4. Data Analysis

When the dependent variable is nominal and dichotomous, as in this study — be invited or not invited to a job interview — the analysis of the relationships with the independent variables (such as gender, age, years of work experience, education, education area, work experience, residency, situation towards employment) should be tested using non-parametric tests (Maroco, 2007). Following, measures of association, through the computation of Cramer *V* coefficient and the non-parametric tests of Chi-square (Maroco, 2007) were employed to examine the association and independence between the independent variables and the dependent variable. To do so, the Statistical Package for Social Sciences (SPSS) software was used.

4. Results

According to the non-parametric test used, the associations were considered statistically significant if *p-value* was equal or inferior to 0.01. There were only two variables that were not significantly associated with the invitation for a first interview: education and place of residence (V = 0,054, p = 0.117 > 0.01, and V = 0,087, p = 0.349 > 0.01 and respectively). All other variables registered a p-value lower than 0.01 and V values between 0.088 and 0.183, which signal significant although low associations between the independent variables and the dependent variable.

Hypothesis 1 predicted that applicants' gender would be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer male applicants. According to the results of the Chi-square test (Table 2), the invitation for an interview was not independent from applicants' gender. There was a statistically significant difference between interviewed and non-interviewed applicants on a grand scale, in that male applicants were more likely interviewed than female ($X^2(1) = 33.251$, p = 0.00). Therefore, *Hypothesis 1* was accepted. The results show that the probability of a male applicant being invited for an interview is almost three times higher than the probability of a female applicant being invited.

			Gender		
			Male	Female	Total
Interview Status	No interview	Count	1539[a]	1042[b]	2581
		Expected Count	1595,1	985,9	2581
		Std. Residual	-1,4	1,8	
	Interview	Count	349[a]	125[b]	474
		Expected Count	292,9	181,1	474
		Std. Residual	3,3	-4,2	
Total		Count	1888	1167	3055
		Expected Count	1888	1167	3055
Pearson Chi-Square		Value			33,251
		df			1
		p (2-sided)			0,000

Notes . Each subscript letter denotes a subset of the variable categories whose column proportions do not differ significantly from each other at the .05 level.

Table 2 – Results of the Chi-square Tests – H1

Hypothesis 2 predicted that applicants' age would be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer older applicants. As per illustrated in Table 3, the results of the Chi-square test show that the invitation for an interview was not independent from applicants' age. There was a statistically significant difference in age between interviewed and non-interviewed applicants, in that applicants with age between 30 and 40 years were more likely to be interviewed than under 30 years or over 40 years applicants ($X^2(2) = 20.64$, $p = 0.00$). Therefore, *Hypothesis 2* was accepted. The results show that applicants from the age group of 30 - 40 years have two times more probability of being invited to an interview than the applicants with less than 30 years.

			Age			
			< 30 years	30-40 years	>40 years	Total
Interview Status	No interview	Count	623_a	939_b	$601_{a, b}$	2163
		Expected Count	591,4	976,9	594,7	2163
		Std. Residual	1,3	-1,2	0,3	
	Interview	Count	78_a	219_b	$104_{a, b}$	401
		Expected Count	109,6	181,1	110,3	401
		Std. Residual	-3,0	2,8	-0,6	
Total		Count	701	1158	705	2564
		Expected Count	701	1158	705	2564
Pearson Chi-Square		Value				20,64
		df				2
		p (2-sided)				0,000

Notes . Each subscript letter denotes a subset of the variable categories whose column proportions do not differ significantly from each other at the .05 level.

Table 3 – Results of the Chi-square Tests – H2

Hypothesis 3 predicted that applicants' years of work experience would be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants with more years of work experience. The results of the Chi-square test (Table 4) indicated that the invitation for an interview was not independent from applicants' years of work experience. There was a statistically significant difference between interviewed and non-interviewed applicants, in that applicants with more than 10 years of work experience were more likely to be

interviewed than applicants with less than 10 years of work experience ($X^2(3) = 23{,}399$, $p = 0.00$). Therefore, *Hypothesis 3* was accepted.

			Years of Work Experience				
			Less than 5 years	5 to 10 years	More than 10 years	Not mentioned	Total
Interview Status	No interview	Count	604_a	642_b	1326_b	$9_{a, b}$	2581
		Expected Count	565,2	646,3	1361,0	8,4	2581,0
		Std. Residual	1,6	-0,2	-0,9	0,2	
	Interview	Count	65_a	123_b	285_b	$1_{a, b}$	474
		Expected Count	103,8	118,7	250,0	1,6	474,0
		Std. Residual	-3,8	0,4	2,2	-0,4	
Total		Count	669	765	1611	10	3055
		Expected Count	669	765	1611	10	3055
Pearson Chi-Square		Value					23,399
		df					3
		p (2-sided)					0,000

Notes . Each subscript letter denotes a subset of the variable categories whose column proportions do not differ significantly from each other at the .05 level.

Table 4 – Results of the Chi-square Tests – H3

Hypothesis 4 predicted that applicants' education would be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants with higher education. The results of the Chi-square test (Table 5) show that the invitation for an interview was independent from applicants' qualifications. There was no statistically significant difference for that variable, in that individuals with different education levels would have equal probability of being invited for an interview ($X^2(2) = 5{,}316$, $p = 0.07$). Therefore, *Hypothesis 4* was rejected.

			Education			
			12th grade or less	Graduated and Post-Graduated	Other	Total
Interview Status	No interview	Count	356_a	2094_a	131_a	2581
		Expected Count	341,3	2111,3	128,4	2581
		Std. Residual	0,8	-0,4	0,2	
	Interview	Count	48_a	405_a	21_a	474
		Expected Count	62,7	387,7	23,6	474
		Std. Residual	-1,9	0,9	-0,5	
Total		Count	404	2499	152	3055
		Expected Count	404	2499	152	3055
Pearson Chi-Square		Value				5,316
		df				2
		p (2-sided)				0,07

Notes . Each subscript letter denotes a subset of the variable categories whose column proportions do not differ significantly from each other at the .05 level.

Table 5 – Results of the Chi-square Tests – H4

Hypothesis 5 predicted that applicants' education area would be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants from an education area related to the job requirements. According to the results of the Chi-square test (Table 6), the invitation for an interview was not independent from applicants' education area. There was a statistically significant difference between interviewed and non-interviewed applicants, in that applicants with an education related to the job were more likely to be interviewed than the others ($X^2(2) = 30{,}757$, $p = 0.00$). Therefore, *Hypothesis 5* was accepted.

			Education Area			
			Not related	Related	NA	Total
Interview Status	No interview	Count	1275_a	1096_b	210_c	2581
		Expected Count	1258,8	1136,3	185,9	2581
		Std. Residual	0,5	-1,2	1,8	
	Interview	Count	215_a	249_b	10_c	474
		Expected Count	231,2	208,7	34,1	474
		Std. Residual	-1,1	2,8	-4,1	
Total		Count	1490	1345	220	3055
		Expected Count	1490	1345	220	3055
Pearson Chi-Square		Value				30,757
		df				2
		p (2-sided)				0,000

Notes. Each subscript letter denotes a subset of the variable categories whose column proportions do not differ significantly from each other at the .05 level.

Table 6 – Results of the Chi-square Tests – H5

Hypothesis 6 predicted that applicants' work experience would be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants with work experience related to the job requirements. According to Table 7, the invitation for an interview was not independent from applicants' previous work experience. There was a statistically significant difference between interviewed and non-interviewed applicants, in that applicants with work experience related to the job were more likely to be interviewed than the ones with non-related work experience ($X^2(2) = 62{,}52$, $p = 0.00$). Therefore, *Hypothesis 6* was accepted. The results show that the applicants holding a work experience related to the job they are applying to have almost three times more probability of being invited to an interview than the ones whose work experience is unrelated.

			Work Experience			
			Not related	Related	NA	Total
Interview Status	No interview	Count	963_a	1408_b	210_c	2581
		Expected Count	912,4	1482,7	185,9	2581,0
		Std. Residual	1,7	-1,9	1,8	
	Interview	Count	117_a	347_b	10_c	474
		Expected Count	167,6	272,3	34,1	474,0
		Std. Residual	-3,9	4,5	-4,1	
Total		Count	1080	1755	220	3055
		Expected Count	1080	1755	220	3055
Pearson Chi-Square		Value				62,518
		df				2
		p (2-sided)				0,000

Notes . Each subscript letter denotes a subset of the variable categories whose column proportions do not differ significantly from each other at the .05 level.

Table 7 – Results of the Chi-square Tests – H6

Hypothesis 7 predicted that applicants' residency related to the job placement would be associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants that live closer to the job place. The results of the Chi-square test (Table 8) indicated that the invitation for an interview was not independent from applicants' residency, for a significance level of $p < 0.05$. There was a statistically significant difference for that variable, in that applicants who lived in Porto had more chances of being invited for an interview than candidates from Lisbon or Other places ($X^2(2) = 6{,}196$, $p = 0.05$). Yet, the *V* Cramer for the association between these measures was not non-significant ($V = 0{,}087$, $p = 0.349 > 0.01$), which does not support *Hypothesis 7*.

			Residency			
			Porto	Lisbon	Others	Total
Interview Status	No interview	Count	1669_a	120_a	792_a	2581
		Expected Count	1690,5	113,2	777,3	2581
		Std. Residual	-0,5	0,6	0,5	
	Interview	Count	332_a	14_a	128_a	474
		Expected Count	310,5	20,8	142,7	474
		Std. Residual	1,2	-1,5	-1,2	
Total		Count	2001	134	920	3055
		Expected Count	2001	134	920	3055
Pearson Chi-Square		Value				6,196
		df				2
		p (2-sided)				0,045

Notes . Each subscript letter denotes a subset of the variable categories whose column proportions do not differ significantly from each other at the .05 level.

Table 8 – Results of the Chi-square Tests – H7

Hypothesis 8 predicted that applicants' situation towards employment would be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer employed applicants. The results of the Chi-square test (Table 9) revealed that the invitation for an interview was not independent from the applicants' work situation. There was a statistically significant difference between interviewed and non-interviewed applicants, in that employed applicants were more likely to be invited for an interview than unemployed applicants, freelancers, applicants who were searching for the first job or even applicants who were still attending University ($X^2(4) = 68{,}628$, $p = 0.00$). Therefore, *Hypothesis 8* was accepted. Furthermore, the results show that unemployed applicants had lower chances of being invited for an interview as showed by the standard residuals.

			Situation towards employment					
			Unemployed	Employed	Freelancer	University Attendance	Searching first job	Total
Interview Status	No interview	Count	1278_a	1148_b	$11_{a, b}$	$12_{a, b}$	107_a	2556
		Expected Count	1216,4	1226,5	9,3	10,1	93,7	2556,0
		Std. Residual	1,8	-2,2	0,6	0,6	1,4	
	Interview	Count	163_a	305_b	$0_{a, b}$	$0_{a, b}$	4_a	472
		Expected Count	224,6	226,5	1,7	1,9	17,3	472,0
		Std. Residual	-4,1	5,2	-1,3	-1,4	-3,2	
Total		Count	1441	1453	11	12	111	3028
		Expected Count	1441	1453	11	12	111	3028
Pearson Chi-Square		Value						68,628
		df						4
		p (2-sided)						0,000

Notes. Each subscript letter denotes a subset of the variable categories whose column proportions do not differ significantly from each other at the .05 level.

Table 9 – Results of the Chi-square Tests – H8

Although it was not predicted by the model, the tests were also run for job hierarchical levels. The results of the Chi-square test (Table 10) showed evidence that the invitation for an interview was not independent from the job level, in that Staff and Intermediate Managers were more likely to be interviewed than Factory Workers, Direction, Team Managers and Technicians ($X^2(6) = 31{,}58$, $p = 0.00$).

			Job level							
			Factory Worker	Staff	Direction	Intermediate Management	Team Management	Technician	Not Available	Total
Interview Status	No interview	Count	$25_{a, b}$	1019_{b}	$151_{a, b}$	772_{b}	238_{b}	166_{b}	210_{a}	2581
		Expected Count	21,1	1048,5	146,2	775,6	235,7	168,1	185,9	2581,0
		Std. Residual	0,8	-0,9	0,4	-0,1	0,1	-0,2	1,8	
	Interview	Count	$0_{a, b}$	222_{b}	$22_{a, b}$	146_{b}	41_{b}	33_{b}	10_{a}	474
		Expected Count	3,9	192,5	26,8	142,4	43,3	30,9	34,1	474,0
		Std. Residual	-2,0	2,1	-0,9	0,3	-0,3	0,4	-4,1	
Total		Count	25	1241	173	918	279	199	220	3055
		Expected Count	25	1241	173	918	279	199	220	3055
Pearson Chi-Square		Value								31,577
		df								6
		p (2-sided)								0,000

Notes . Each subscript letter denotes a subset of the variable categories whose column proportions do not differ significantly from each other at the .05 level.

Table 10 – Results of the Chi-square Tests – Job level

5. Discussion

In summary, Table 11 lists the hypotheses and the corresponding results. The findings reveal that male and employed applicants are preferred, as well as workers from the age group 30-40 who are work experienced, and hold an education and work experience related to the job requirements.

Hypotheses	Results
H1: Applicants' **gender** will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer male applicants.	✓ Supported
H2: Applicants' **age** will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer older applicants.	✓ Supported
H3: Applicants' **years of work experience** will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants with a longer work experience.	✓ Supported
H4: Applicants' **education** will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants with higher education.	❖ Not-Supported
H5: Applicants' **education area** will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer applicants from an education area related to the job requirements.	✓ Supported
H6: Applicants' **work experience** will be positively associated with the invitation for a first job interview, in that recruiters are more likely prefer applicants with work experience related to the job requirements.	✓ Supported

H7: Applicants' **residency** related to the job placement will be associated with the invitation for a first job interview, in that recruiters are more likely prefer applicants that live closer to the job place.	❖ Not Supported
H8: Applicants' **situation towards employment** will be positively associated with the invitation for a first job interview, in that recruiters are more likely to prefer employed applicants.	✓ Supported

Table 11 – Results of the hypotheses testing

The results showed that gender related stereotypes persist in applicants' selection, since there was a clear preference for male applicants in the invitations to the first job interviews. Recent studies show that women are significantly less likely than men to be in top management positions and that women earn significantly less than men, per hour worked, even when comparing workers with the same level of education and similar jobs, despite the absence of significant differences in performance among the groups (OECD, 2016).

In line with the predictions, the results indicate that recruiters searched for applicants from a specific age group (30 to 40 years old) who are more likely to have adequate work experience. These findings are consistent with Bertolino and Fraccaroli (2013) reported stereotypes in the workplace, who have showed that older workers were often favoured despite the absence of differences in task performance.

Earlier research also demonstrated that when using time-based measures of experience, such as years of work experience, there is a positive relationship with job performance (Quińones, Ford and Teachout, 1995). The results of this study are in line with the literature, in that recruiters preferred to invite for a first interview applicants with a previous work experience of more than 10 years.

Results support previous research (Brown and Campion, 1994) in that résumés are more attractive when they contain biodata that matches the requirements of the job position and are related to clients' implicit theories for the job. In more specific cases as previously approached by Knouse (1994), it was very clear that work experience related

to the job enhanced recruiters perceptions of the applicant, reflecting his or her competence and potential.

As predicted, these results are consistent with the previous literature review (Knouse, 1994) in that recruiters searched for similarities between education area and the requirements of the job offered, giving preference to applicants whose education area was related to the job. Recruiters' perceptions of the applicants' suitability were also enhanced when their work experience was appropriate and related to the new position (Knouse, 1994).

Although in this study it is not explicit, due to its nature, social cognitive theories are also implicitly used to try to explain some features of the résumé and to try to predict how successfully the applicant would perform. In line with this subject, the most surprising result refers to recruiters' preferences for employed applicants. While predicted, the results also show that unemployed applicants had lower chances of being interviewed, which obviously decrease their employability, regardless of their professional credentials. Thus, it is possible to conclude that it is inevitable to eventually incur in the fundamental attribution error (Ross, 1977), which is explained as the tendency for observers to attribute other people's behaviour to internal or dispositional factors and to downplay situational causes. In the recruitment and selection context, it might occur, as previously stated, when recruiters draw conclusions about the presence or absence of some information in applications and relate that with applicants' dispositional factors (personality, for example). In the case of employed versus unemployed applicants, the results prove that situation towards employment is used as a hiring criteria in that, unemployed applicants would face a lower invitation probability than employed applicants. In the case of employed versus unemployed applicants, it might happen that perfectly acceptable applicants would not be invited for an interview because of conclusions poorly drawn regarding their skills and abilities, goal-orientation, productivity, among other personal characteristics.

5.1. Limitations and research suggestions

The study was conducted having as basis the applicants' database of a human resources consulting company, more specifically the first two years of activity of the Porto's office.

The limitations of this study are mainly methodological, relying on the fact that the database structure was previously defined and was in the middle of its completion. An already defined structure limits the analysis, in that the categories or variables are already chosen. Therefore, it was not possible to test other résumé details approached in previous researches, such as layout or other attributes.

Furthermore, the database was updated by almost every employee of the company. As presented in the literature review, different people perceive the information in résumés from several perspectives, meaning that social cognitive theories are applied differently and fundamental attribution errors might be incurred in numerous ways. Applied to this study, there might have been undesirable simplifications or even registration errors, which is the case, for example, of previous work experiences or education areas being more valued than others and different criteria being used. Another limitation of this study is a consequence of this lack of criterion in the update of résumé information. In order to accomplish more clear and significant results in the non-parametric tests, the categories of the variables had to be shrunk, what drawn in some loss of details (for example, all different engineering degrees were grouped into a single "Engineering" category and afterwards to the "Related" or "Not Related" categories).

Additionally, as a consequence of the database having only information of the early years of company's activity in the North, some conclusions might be outdated in terms of job areas, job positions, job places, and consequently in terms of the applicants' details. In the first years, most jobs were in the Porto area and came from a restricted group of client-companies, what changed through the following years as the company stablished itself in the market, developed its business and received more recruitment and selection processes, as it can be seen in Table 12.

	2014	2015	2016
R&S	14	209	786

Table 12 – Recruitment and Selection processes per year

Despite these limitations this study is one of the few that examines the key résumé's determinants of the invitation for a job interview through the use of factual information. The observed associations between the résumés items and the probability of being interviewed are not random and highlight the need for future research. In

particular, the approach of more items in the same study. In other words, this study manages to analyse different types of résumé items (Biodata, Applicant-Job fit and Situational biases), but it could include others if it was not limited by the previously structured database, such as layout, extracurricular activities or even other attributes. Additionally, it could be studied the interactions between résumé's content categories and their combined effects on the perceived employability. In line with the study of other attributes, in future research could be analysed and made a complete list of the typical inferences made by recruiters about applicants' personality when screening résumés.

It was surprising that education hypothesis was not supported. Contrary to previous studies (Renwick and Tosi, 1978; Knouse, 1994; Cole *et al.*, 2007), results exposed that there was no relationship between applicants' education (higher or lower qualifications) and the probability of being invited for an interview. The same happened with residency, showing that these was no relationship between applicants' residency and the invitation for an interview. According to previous research it would be expected that applicants with education levels adjusted to the job would have more probability of being invited for an interview as well as applicants who lived nearer to the job place. Therefore, it would be interesting to explore the adequacy of education and residency to the job in future research.

Finally, in many researches, contrary to this one, recruiters know they are being part of a study and often know the theme, so there is the possibility of trying to incur in hypotheses guessing and adapt their behaviour and inferences accordingly, reducing the veracity of the results.

5.2. Practical Contributions

Despite the universality of résumé screening as an instrument of pre-selection decisions, there is surprisingly little empirical research examining the inferences drawn by recruiters and their use of résumé information when evaluating applicants' employability. Thus, the present study addresses such calls and extends prior research by examining recruiters' inferences of applicants' suitability as inferred from their résumés as predictors of an invitation for a first job interview. Therefore, this study takes a step forward in establishing empirical evidence regarding the résumé characteristics that provide competitive advantage in obtaining job interviews. In other

words, examines the résumé's key determinants of the invitation for a job interview by using the applicants' database of a Portuguese human resource management consulting company. The findings have several practical implications for the HR consulting company target and recruiters in general, for the employing companies, and for applicants.

For the HR consulting company, the findings show that some inaccuracies might have been prevented which suggest that there are some procedures in recruitment and selection that can be improved. As stated before, it would be interesting to have information on more résumé details such as extracurricular activities or layout. Moreover, previous research (Cole *et al.*, 2007) showed that résumé information have different levels of importance to the evaluation of applicants' suitability to the job, therefore it would be interesting to also have access to this information and extend the conclusions of this study. Both HR consulting company and recruiters in general should be aware that the lack of stablished procedures among them often leads to analysis mistakes and interpretation errors. Therefore it would be wise and cautious to stablish homogeneous criterion (for example, for when an applicant has more than three past work experience or numerous degrees) to be used by the recruiters who handle applicants' information. This would prevent misunderstandings of, for instance, which academic degree or work experience would be more important when looking to the résumé as a whole.

Furthermore, this study also shows some homogeneity in the database since the analysis concerns the first years of the company's activity, as already stated. Hence, to complement this study, it would be interesting for the HR consulting company to perform such analysis more often, not only to see its evolution and growth but also to understand possible developments in terms of type of applicants and type of jobs (hierarchical positions and professional areas). This continuous study would perhaps show that the inferences made by recruiters depend on the type of jobs offered.

To the employing companies the findings are relevant for a deeper understanding of the recruitment and selection processes. In particular, the findings warn for the inferences recruiters draw, sometimes involuntarily, and consequently to the possibility of missing the opportunity of working with good employees by not giving them the chance of being interviewed. To prevent this, in addition to further

recruiters' training (Brown and Campion, 1994; Cole *et al.*, 2005), it is important to make sure that the job requirements are clear, specific and known by all recruitment team, to reduce misunderstandings and reach all potentially qualified applicants despite of their gender, age and work situation. Ultimately, the effectiveness of these recommendations will depend on decision-makers' strength to move ahead of traditional stereotypes and other previously conceived ideas regarding the person that is best fit for the job.

Finally, for applicants, this study provides some insights useful to construct an impactful résumé and prevent the negatives from recruiters' implicit theories. Contrary to several previous researches, this study approaches job openings for both qualified and non-qualified positions, leading to a broader generalization of the results not only to skilled applicants but also to less skilled ones. According to this study findings, candidates may increase their chances of being shortlisted by adjusting or altering the information content of résumés. While some strategies have been recommended for increasing the accuracy of the biodata gathered (Arnulf *et al.*, 2010), only some are supported by the findings: use only certain types of items, such as age, education area and work experience that are consistent with the job requirements, and then omit the situation regarding employment in case of being unemployed, freelancer or looking for a fist job. Apparently, this information decreases the chances of being interviewed which increases the risk of long-term employment.

6. Conclusion

In the last years of the first decade of XXI century, the world witnessed a financial crisis that caused a great recession. Even after a decade, most countries are still in economic recovery. Labour markets have not fully healed, as employment is still low, nominal wage grows slowly and the job quality continues low, due to labour markets insecurity (OECD, 2016). Some of the most affected groups who still struggle to find a job are long-term unemployed, low-skilled youth and women. The results of this study corroborate these statistics as the most vulnerable groups are the ones that showed less probability of being called for a first job interview: women, younger applicants with less work experience, whose education area and work experience are not appropriate for the job and who are unemployed. In this context, every interview is an opportunity to change their future, so it becomes even more essential to understand how recruiters think and what they value in applications.

In some initial research, it was possible to find theories regarding the inferences made by recruiters and the social cognitive theories that explain such inferences, as well as practical studies in which authors tested specific characteristics of the applicants and specific elements of the résumé. However, twenty years have passed since Brown and Campion's (1994) call for research on recruiters' inferences of applicants drawn from résumé information and it was still hard to find a study that used real résumés of actual applicants that applied to a job offer truly existent in the market and that were evaluated by professional recruiters. The present study tries to bridge that gap.

With access to the applicants' database of an HR consulting company, this study examined how certain elements included in résumés were associated to the invitation for a first job interview. These elements were not only biodata details, such as gender, age, years of work experience and education, but also detailed fitting elements to the requirements of the job, such as education area, work experience, residency, and the situation towards employment.

The results of the study show that gender, age, years of work experience, education area, work experience and situation towards employment are predictors of the first job interview, in that recruiters prefer male applicants, who are older and have more years of work experience, whose education area and work experience are related

to the requirements of the job opening and who are employed whilst applying. Similarly, to Brown and Campion (1994) the final conclusions of this study reflected applications' higher attractiveness when the résumés contain biodata required by the position and related to recruiters' implicit theories for the job.

On a personal note, and regarding the internship that originated this Master's dissertation, I was part of a recruitment team for more than 450 hours and observed — from the ground — the main recruiters' practices. More than just working with the database and the other activities aforementioned, I was given the opportunity to screen résumés and to perform biographical interviews. Despite the requirements demanded by the client-companies, I realized that this consulting company tries to abstain from preconceived bias and recruiters tried their best to give all suitable applicants a chance and give them a fair opportunity. Hence, it is my belief that despite the statistical findings, this company is trying to counter market trends regarding résumé screening bias, something that is of great importance for a company aiming to build a competent reputation in the market. To enhance its recruitment and selection practices, I suggest some simple procedures, such as regular briefings and meetings amongst the recruitment team, in order to align ideas and clarify the requirements of each process.

I do hope this study contributes to a scientific enrichment and a deeper understanding of the inferences recruiters usually make when screening résumés, how they perceive the different information in applications and how they value each of those details, and, therefore, at the same time, be useful for people who are looking for a job and want to increase their chances of being invited for a first job interview.

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Appendix

Appendix A - Description of the methodological aspects of the similar studies (Source: Author's elaboration)

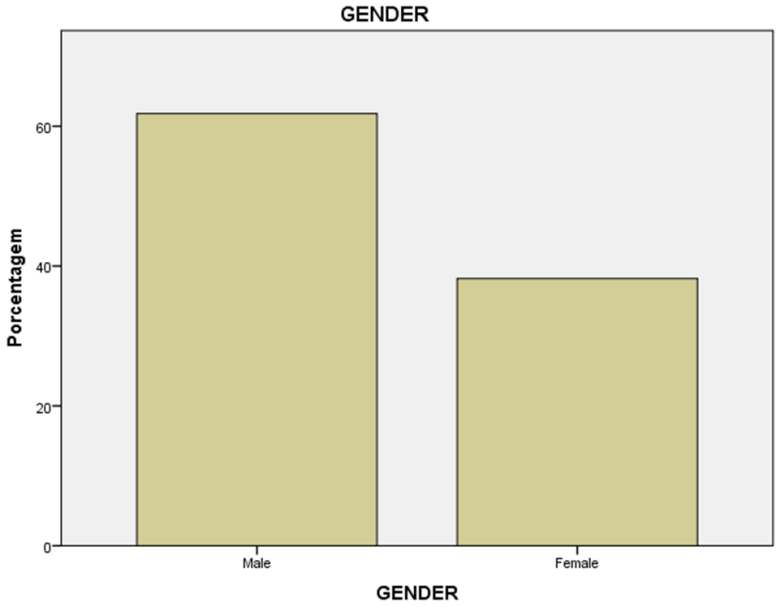
Authors	Country of study	Sample Size (participants/CVs)	Economic sector	Data Collection	Response rate (%)	Participants	Unit of analysis	Statistical analysis
Brown and Campion (1994)	USA	113/22	Companies that hire managers	Questionnaire	81,3%	HR recruiters or line managers	Fake CVs	ANOVA, t-tests
		184/16	Companies that hire managers	Questionnaire	86,4%	Recruiters	Fake CVs	ANOVA
		26/286	Companies that hire managers	Questionnaire	---	Recruiters	Fake CVs	Q sort
Knouse (1994)	USA	89/8	service industries, manufacturing, construction and petrochemical industries	Survey	44,5%	Chamber of Commerce members	Fake CVs	F-tests, MANOVA
Thoms *et al.* (1999)	USA	64/7	Multiple Industries	Questionnaire	64%	Business professionals and HR MBA students	Fake recent graduate CVs	Chi square, nonparametric analysis
Nemanick and Clark (2002)	USA	219/24	US University	Questionnaire	100%	University students	Fake college CVs	Regression, t-test
Cole *et al.* (2004)	USA	224/122	Multiple Industries	Questionnaire	7%	Recruiters	CVs from business seniors enrolled in US college	Regression
Cole *et al.* (2007)	USA	224/122	Multiple Industries	Questionnaire	7%	Recruiters	CVs from business seniors enrolled in US college	Regression
Cole *et al.* (2009)	USA	224/122	Multiple Industries	Questionnaire	7%	Recruiters	CVs from business seniors enrolled in US college	Regression
Arnulf *et al.* (2010)	Europe	90/12	---	Questionnaire	100%	HR professionals and university teachers	CVs	GLM, t-tests, Kruskal-Wallis test
Bohnert and Ross (2010)	USA	145/1	US University	Questionnaire	97,8%	University students	Fake CV	MANOVA
Huang *et al.* (2013)	Taiwan	41/16	High-tech manufacturing, financial and serve industry	Questionnaire	---	General professionals and RH managers	Fake CVs	T-tests, ordinary least squares regression, hierarchical linear modeling
Bertolino *et al.* (2013)	Italy	155/12	Schools located in several cities of a Northest province	Survey	92%	Administrative officers, administrative assistants, co-assistants	Fake CVs / items	Hierarchical regression
Burns *et al.* (2014)	USA	266/12	Multiple Industries	Survey	47.67 %	Amazon Mechanical Turk database	CVs and self-report personality ratings from MBA students	Multilevel regression
	USA	122/37	Multiple Industries	Survey	36.9 %	Human Resource professionals	CVs from MBA students	Multilevel regression

Appendix B – Descriptive Statistics of the Applicants' Database

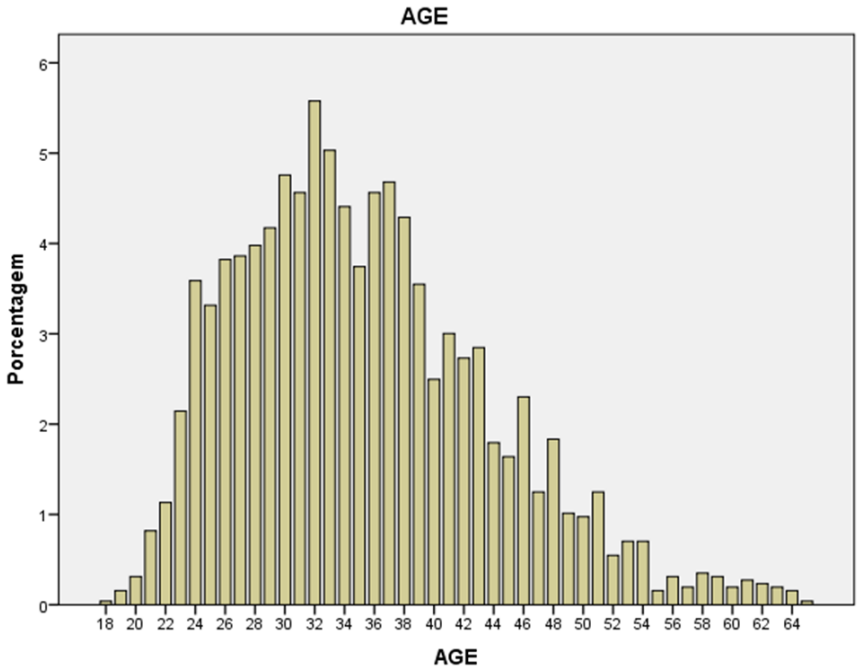
		Gender	Age	Residency	Education	Education Area	Situation towards employment	Years of Work Experience	Work Experience	Application year	Job area	Job level	Job location	Company Industry
N	Valid	3055	2564	2866	3037	3055	3028	3055	3055	3026	3055	3055	3055	2795
	Omission	0	491	189	18	0	27	0	0	29	0	0	0	260
Mean		0,38	35,29	12,00	5,89	6,22	1,65	2,63	10,0544	2014,71	12,01	10,17	12,97	10,19
Median		0,00	34,00	14,00	6,00	4,00	2,00	3,00	9,0000	2015,00	5,00	4,00	7,00	3,00
Mode		0	32	14	6	2	2	3	9,00	2015	2	2	7	1
Std. Deviation		0,486	8,500	4,582	1,018	5,359	0,837	5,582	6,71540	0,695	24,414	24,782	24,873	26,013
Amplitude		1	47	20	7	23	4	98	98,00	3	98	98	98	98
Percentiles	25	0,00	29,00	14,00	6,00	2,00	1,00	2,00	7,0000	2014,00	3,00	2,00	6,00	1,00
	50	0,00	34,00	14,00	6,00	4,00	2,00	3,00	9,0000	2015,00	5,00	4,00	7,00	3,00
	75	1,00	40,75	14,00	6,00	8,00	2,00	3,00	12,0000	2015,00	9,00	4,00	7,00	4,00

GENDER

		Frequence	Percentage	Valid Percentage	Cumulative Percentage
Valid	Male	1888	61,8	61,8	61,8
	Female	1167	38,2	38,2	100,0
	Total	3055	100,0	100,0	

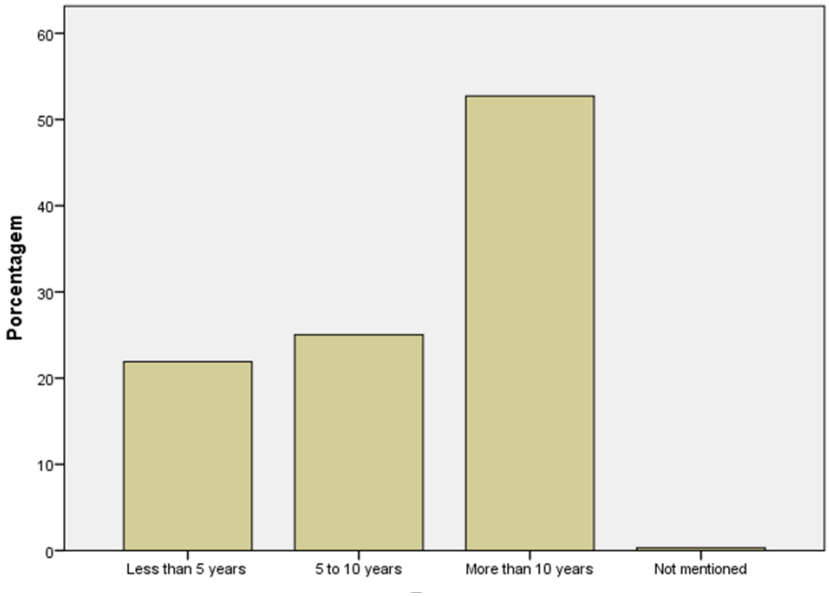


AGE					
		Frequence	Percentage	Valid Percentage	Cumulative Percentage
Valid	18	1	0,0	0,0	0,0
	19	4	0,1	0,2	0,2
	20	8	0,3	0,3	0,5
	21	21	0,7	0,8	1,3
	22	29	0,9	1,1	2,5
	23	55	1,8	2,1	4,6
	24	92	3,0	3,6	8,2
	25	85	2,8	3,3	11,5
	26	98	3,2	3,8	15,3
	27	99	3,2	3,9	19,2
	28	102	3,3	4,0	23,2
	29	107	3,5	4,2	27,3
	30	122	4,0	4,8	32,1
	31	117	3,8	4,6	36,7
	32	143	4,7	5,6	42,2
	33	129	4,2	5,0	47,3
	34	113	3,7	4,4	51,7
	35	96	3,1	3,7	55,4
	36	117	3,8	4,6	60,0
	37	120	3,9	4,7	64,7
	38	110	3,6	4,3	69,0
	39	91	3,0	3,5	72,5
	40	64	2,1	2,5	75,0
	41	77	2,5	3,0	78,0
	42	70	2,3	2,7	80,7
	43	73	2,4	2,8	83,6
	44	46	1,5	1,8	85,4
	45	42	1,4	1,6	87,0
	46	59	1,9	2,3	89,3
	47	32	1,0	1,2	90,6
	48	47	1,5	1,8	92,4
	49	26	0,9	1,0	93,4
	50	25	0,8	1,0	94,4
	51	32	1,0	1,2	95,6
	52	14	0,5	0,5	96,2
	53	18	0,6	0,7	96,9
	54	18	0,6	0,7	97,6
	55	4	0,1	0,2	97,7
	56	8	0,3	0,3	98,0
	57	5	0,2	0,2	98,2
	58	9	0,3	0,4	98,6
	59	8	0,3	0,3	98,9
	60	5	0,2	0,2	99,1
	61	7	0,2	0,3	99,4
	62	6	0,2	0,2	99,6
	63	5	0,2	0,2	99,8
	64	4	0,1	0,2	100,0
	65	1	0,0	0,0	100,0
	Total	2564	83,9	100,0	
Omission	99	491	16,1		
Total		3055	100,0		

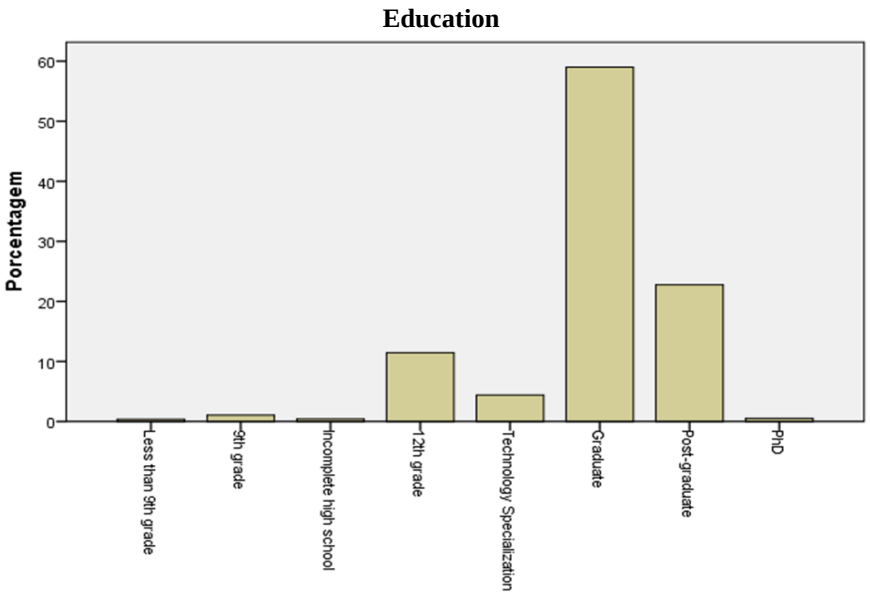


Years of work experience					
		Frequence	Percentage	Valid Percentage	Cumulative Percentage
Valid	Less than 5 years	669	21,9	21,9	21,9
	5 to 10 years	765	25,0	25,0	46,9
	More than 10 years	1611	52,7	52,7	99,7
	Not mentioned	10	0,3	0,3	100,0
	Total	3055	100,0	100,0	

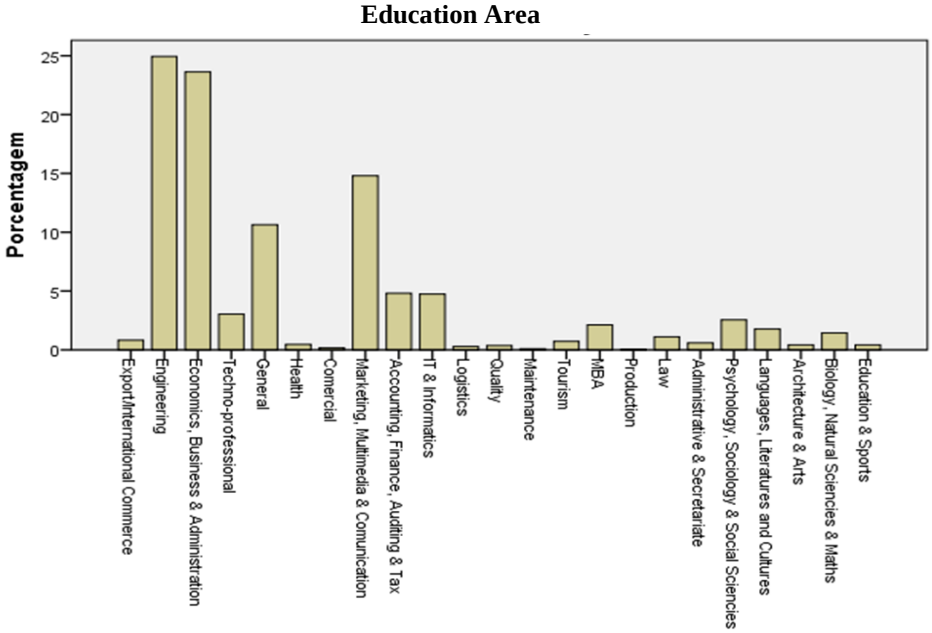
Years of work Experience



Education					
		Frequence	Percentage	Valid Percentage	Cumulative Percentage
Valid	Less than 9th grade	11	0,4	0,4	0,4
	9th grade	32	1,0	1,1	1,4
	Incomplete high school	13	0,4	0,4	1,8
	12th grade	348	11,4	11,5	13,3
	Technology Specialization	134	4,4	4,4	17,7
	Graduate	1792	58,7	59,0	76,7
	Post-graduate	691	22,6	22,8	99,5
	PhD	16	0,5	0,5	100,0
	Total	3037	99,4	100,0	
Omission	Not mentioned	18	0,6		
Total		3055	100,0		

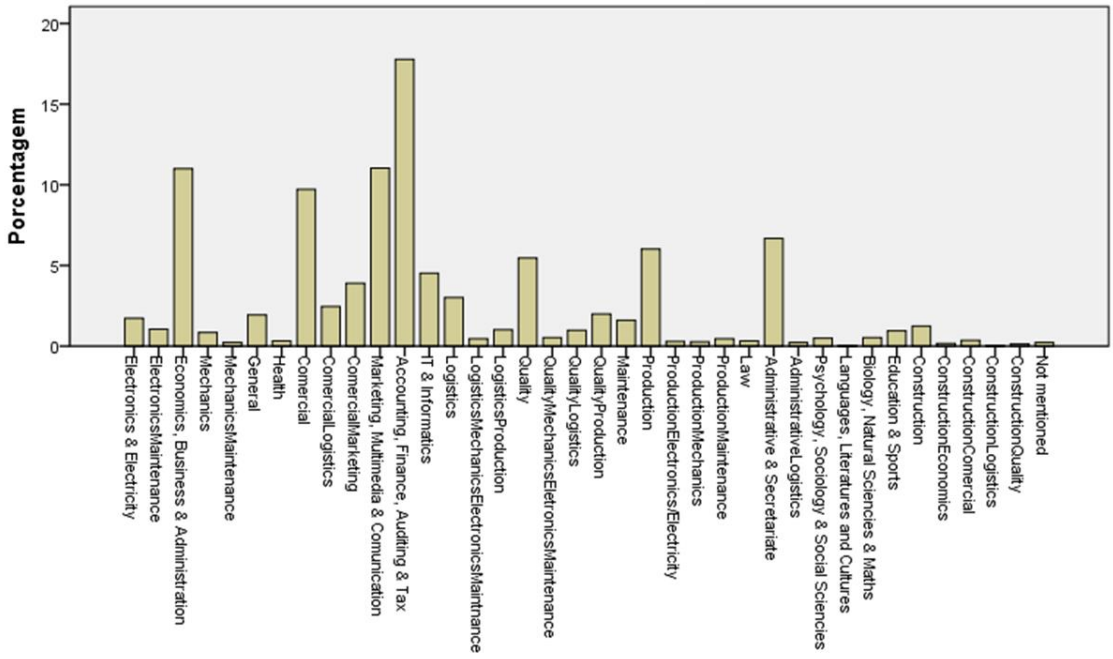


Education Area					
		Frequence	Percentage	Valid Percentage	Cumulative Percentage
Valid	Export/International Commerce	25	0,8	0,8	0,8
	Engineering	762	24,9	24,9	25,8
	Economics, Business & Administration	722	23,6	23,6	49,4
	Techno-professional	93	3,0	3,0	52,4
	General	325	10,6	10,6	63,1
	Health	14	0,5	0,5	63,5
	Comercial	5	0,2	0,2	63,7
	Marketing, Multimedia & Comunication	452	14,8	14,8	78,5
	Accounting, Finance, Auditing & Tax	147	4,8	4,8	83,3
	IT & Informatics	145	4,7	4,7	88,1
	Logistics	9	0,3	0,3	88,3
	Quality	11	0,4	0,4	88,7
	Maintenance	3	0,1	0,1	88,8
	Tourism	22	0,7	0,7	89,5
	MBA	65	2,1	2,1	91,7
	Production	1	0,0	0,0	91,7
	Law	34	1,1	1,1	92,8
	Administrative & Secretariate	18	0,6	0,6	93,4
	Psychology, Sociology & Social Sciencies	78	2,6	2,6	95,9
	Languages, Literatures and Cultures	54	1,8	1,8	97,7
	Architecture & Arts	13	0,4	0,4	98,1
	Biology, Natural Sciencies & Maths	44	1,4	1,4	99,6
	Education & Sports	13	0,4	0,4	100,0
	Total	3055	100,0	100,0	



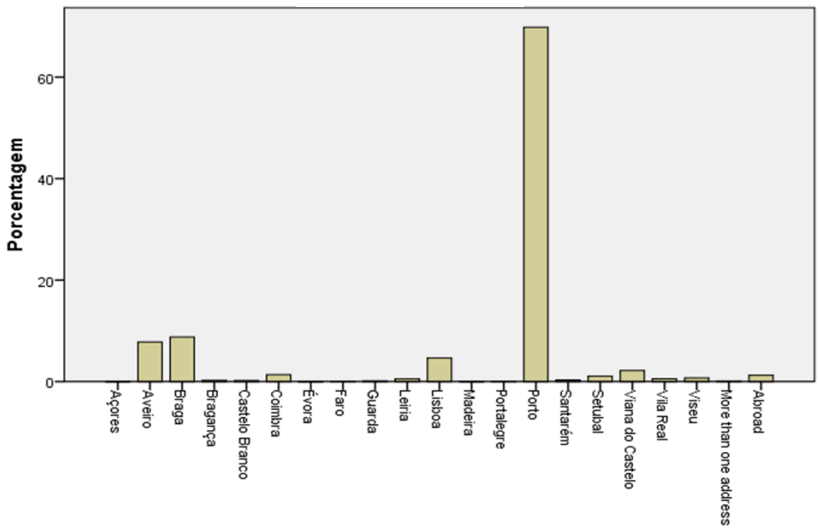
Work Experience					
		Frequence	Percentage	Valid Percentage	Cumulative Percentage
Valid	Electronics & Electricity	53	1,7	1,7	1,7
	ElectronicsMaintenance	32	1,0	1,0	2,8
	Economics, Business & Administration	336	11,0	11,0	13,8
	Mechanics	26	0,9	0,9	14,6
	MechanicsMaintenance	7	0,2	0,2	14,9
	General	59	1,9	1,9	16,8
	Health	10	0,3	0,3	17,1
	Comercial	297	9,7	9,7	26,8
	ComercialLogistics	75	2,5	2,5	29,3
	ComercialMarketing	119	3,9	3,9	33,2
	Marketing, Multimedia & Comunication	337	11,0	11,0	44,2
	Accounting, Finance, Auditing & Tax	543	17,8	17,8	62,0
	IT & Informatics	138	4,5	4,5	66,5
	Logistics	92	3,0	3,0	69,5
	LogisticsMechanicsElectronicsMaintnance	14	0,5	0,5	70,0
	LogisticsProduction	31	1,0	1,0	71,0
	Quality	167	5,5	5,5	76,5
	QualityMechanicsEletronicsMaintenance	16	0,5	0,5	77,0
	QualityLogistics	30	1,0	1,0	78,0
	QualityProduction	61	2,0	2,0	80,0
	Maintenance	49	1,6	1,6	81,6
	Production	184	6,0	6,0	87,6
	ProductionElectronics/Electricity	9	0,3	0,3	87,9
	ProductionMechanics	8	0,3	0,3	88,2
	ProductionMaintenance	14	0,5	0,5	88,6
	Law	10	0,3	0,3	88,9
	Administrative & Secretariate	204	6,7	6,7	95,6
	AdministrativeLogistics	7	0,2	0,2	95,8
	Psychology, Sociology & Social Sciencies	15	0,5	0,5	96,3
	Languages, Literatures and Cultures	1	0,0	0,0	96,4
	Biology, Natural Sciencies & Maths	16	0,5	0,5	96,9
	Education & Sports	29	0,9	0,9	97,8
	Construction	38	1,2	1,2	99,1
	ConstructionEconomics	5	0,2	0,2	99,2
	ConstructionComercial	11	0,4	0,4	99,6
	ConstructionLogistics	1	0,0	0,0	99,6
	ConstructionQuality	4	0,1	0,1	99,8
	Not mentioned	7	0,2	0,2	100,0
	Total	3055	100,0	100,0	

Work Experience



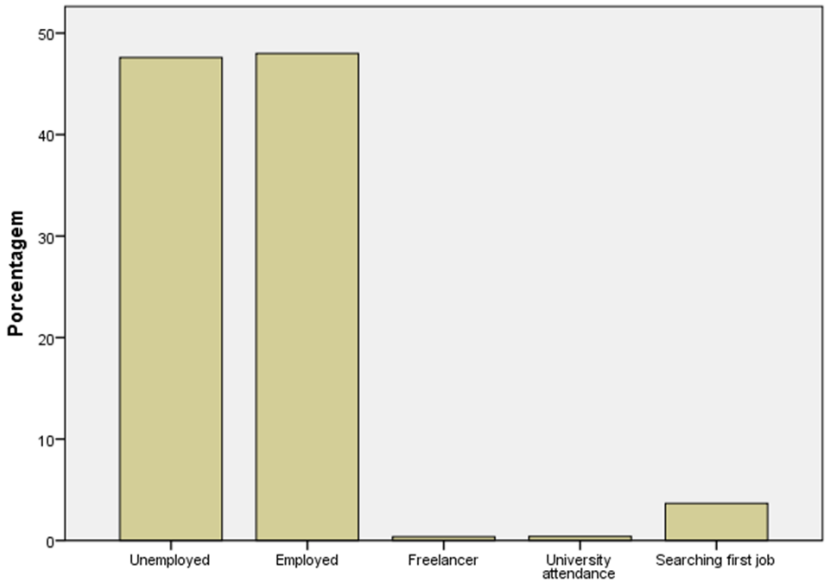
Resindecy					
		Frequence	Percentage	Valid Percentage	Cumulative Percentage
Valid	Açores	1	0,0	0,0	0,0
	Aveiro	224	7,3	7,8	7,9
	Braga	252	8,2	8,8	16,6
	Bragança	7	0,2	0,2	16,9
	Castelo Branco	6	0,2	0,2	17,1
	Coimbra	39	1,3	1,4	18,5
	Évora	1	0,0	0,0	18,5
	Faro	2	0,1	0,1	18,6
	Guarda	4	0,1	0,1	18,7
	Leiria	15	0,5	0,5	19,2
	Lisboa	134	4,4	4,7	23,9
	Madeira	1	0,0	0,0	23,9
	Portalegre	2	0,1	0,1	24,0
	Porto	2001	65,5	69,8	93,8
	Santarém	9	0,3	0,3	94,1
	Setubal	31	1,0	1,1	95,2
	Viana do Castelo	62	2,0	2,2	97,4
	Vila Real	16	0,5	0,6	97,9
	Viseu	20	0,7	0,7	98,6
	More than one address	3	0,1	0,1	98,7
	Abroad	36	1,2	1,3	100,0
	Total	2866	93,8	100,0	
Omission	Not mentioned	189	6,2		
Total		3055	100,0		

Residency



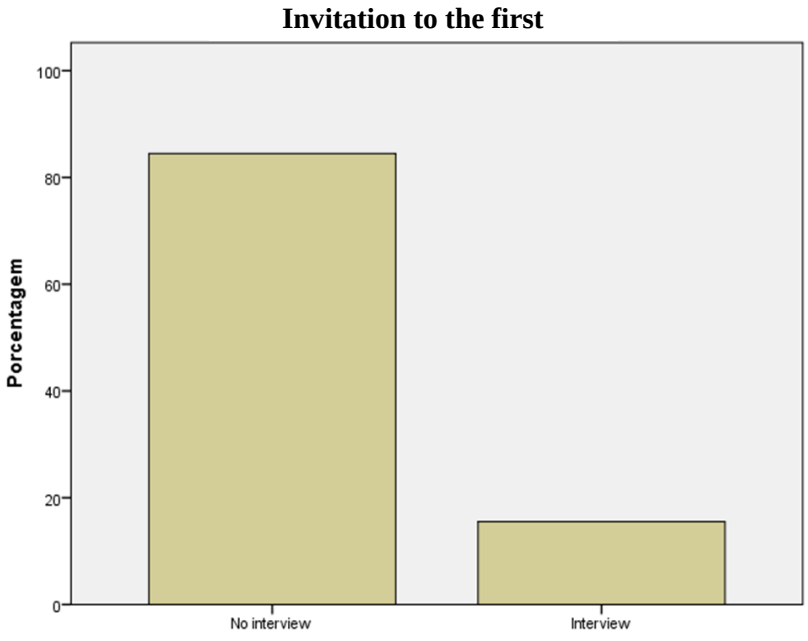
Situation towards employment					
		Frequence	Percentage	Valid Percentage	Cumulative Percentage
Valid	Unemployed	1441	47,2	47,6	47,6
	Employed	1453	47,6	48,0	95,6
	Freelancer	11	0,4	0,4	95,9
	University attendance	12	0,4	0,4	96,3
	Searching first job	111	3,6	3,7	100,0
	Total	3028	99,1	100,0	
Omission	Not mentioned	27	0,9		
Total		3055	100,0		

Situation towards employment

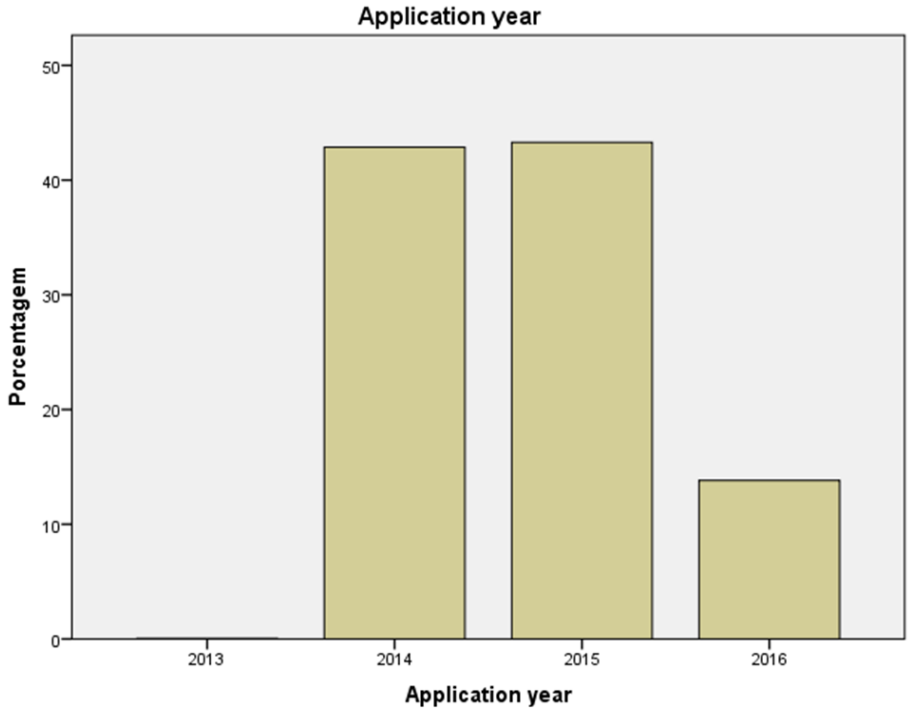


Situation towards employment

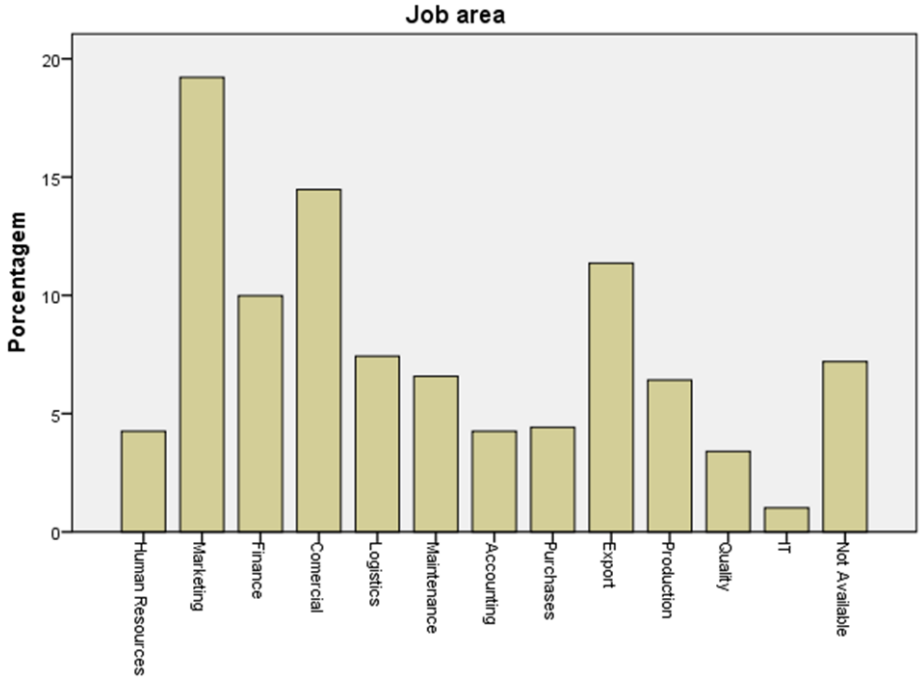
Invitation to the first interview					
		Frequence	Percentage	Valid Percentage	Cumulative Percentage
Valid	No interview	2581	84,5	84,5	84,5
	Interview	474	15,5	15,5	100,0
	Total	3055	100,0	100,0	



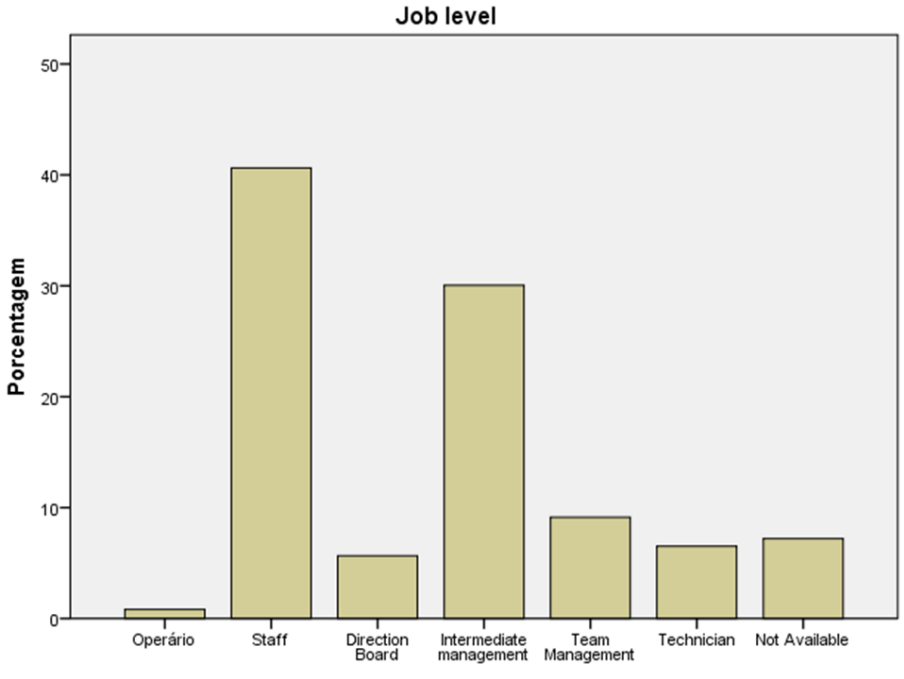
Application year					
		Frequence	Percentage	Valid Percentage	Cumulative Percentage
Valid	2013	1	0,0	0,0	0,0
	2014	1297	42,5	42,9	42,9
	2015	1310	42,9	43,3	86,2
	2016	418	13,7	13,8	100,0
	Total	3026	99,1	100,0	
Omission	Not Available	25	0,8		
	Sistema	4	0,1		
	Total	29	0,9		
Total		3055	100,0		



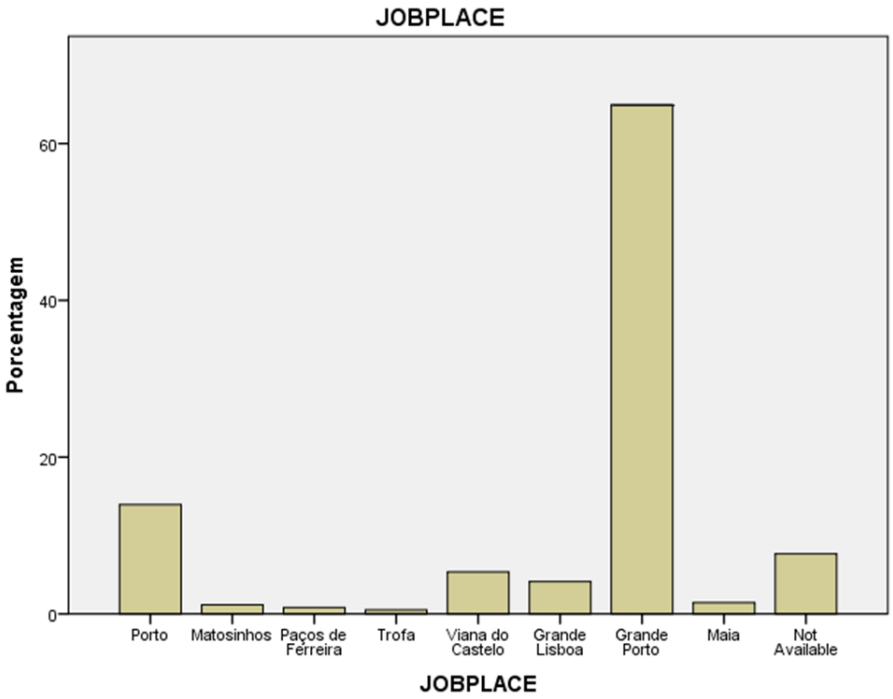
Job area					
		Frequence	Percentage	Valid Percentage	Cumulative Percentage
Valid	Human Resources	130	4,3	4,3	4,3
	Marketing	587	19,2	19,2	23,5
	Finance	305	10,0	10,0	33,5
	Comercial	442	14,5	14,5	47,9
	Logistics	227	7,4	7,4	55,4
	Maintenance	201	6,6	6,6	61,9
	Accounting	130	4,3	4,3	66,2
	Purchases	135	4,4	4,4	70,6
	Export	347	11,4	11,4	82,0
	Production	196	6,4	6,4	88,4
	Quality	104	3,4	3,4	91,8
	IT	31	1,0	1,0	92,8
	Not Available	220	7,2	7,2	100,0
	Total	3055	100,0	100,0	



Job level					
		Frequence	Percentage	Valid Percentage	Cumulative Percentage
Valid	Factory Worker	25	0,8	0,8	0,8
	Staff	1241	40,6	40,6	41,4
	Direction Board	173	5,7	5,7	47,1
	Intermediate management	918	30,0	30,0	77,2
	Team Management	279	9,1	9,1	86,3
	Technician	199	6,5	6,5	92,8
	Not Available	220	7,2	7,2	100,0
	Total	3055	100,0	100,0	



JOBPLACE					
		Frequence	Percentage	Valid Percentage	Cumulative Percentage
Valid	Porto	426	13,9	13,9	13,9
	Matosinhos	36	1,2	1,2	15,1
	Paços de Ferreira	25	0,8	0,8	15,9
	Trofa	16	0,5	0,5	16,5
	Viana do Castelo	164	5,4	5,4	21,8
	Grande Lisboa	126	4,1	4,1	26,0
	Grande Porto	1984	64,9	64,9	90,9
	Maia	44	1,4	1,4	92,3
	Not Available	234	7,7	7,7	100,0
	Total	3055	100,0	100,0	



COMPANYINDUSTRY					
		Frequence	Percentage	Valid Percentage	Cumulative Percentage
Valid	Cooling equipment	925	30,3	33,1	33,1
	Car & Car Components	391	12,8	14,0	47,1
	Food	716	23,4	25,6	72,7
	Individual Protection Equipment	169	5,5	6,0	78,7
	TIC & IT	222	7,3	7,9	86,7
	Construction Equipments/Vehicles	36	1,2	1,3	88,0
	Fuel Distribution	91	3,0	3,3	91,2
	Textile	25	0,8	0,9	92,1
	Not Available	220	7,2	7,9	100,0
	Total	2795	91,5	100,0	
Omission	Sistema	260	8,5		
Total		3055	100,0