

# Job search strategies of recent university graduates in Poland: plans and effectiveness

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**Abstract** The objective of this article was to highlight plans versus actual actions of university graduates in Poland aimed at finding employment. The paper also empirically verifies the impact of chosen job-seeking strategies on the success or failure of their transition to employment. The study was Polish-wide and included graduates of geography. It consisted of two stages. The first stage ( $N = 1120$ ) allowed the researcher to identify the most successful job search methods for university-to-work transition. These included: applying for vacancies advertised on the Internet and direct contact with employers. In the event of failure to find employment, graduates turned to more informal methods. The second stage ( $N = 375$ ) supplied data which made it possible to learn about the graduates' status on the labour market 6 months after graduation. It also provided information on a structure of methods used by graduates which resulted in acquiring a job and evolution of job search methods in case of failure to perform transition to work. Discriminant function analysis was used to establish that the following job search methods are the best predictors of one's situation on the labour market: applying for vacancies advertised in the press and public employment agencies. Other variables were found not to be statistically significant in discriminating between the group of working and unemployed graduates.

**Keywords** Discriminant function analysis · Job search methods · Transition · University graduate

## Introduction

Intensifying difficulties in a smooth and satisfactory university-to-work transition in many countries result from a variety of complex factors (e.g. Allen and Van der Velden 2007; Jacob and Weiss 2008). They, among others, include individual factors which manifest

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themselves in the speed and method of response to labour market demands by the given graduate, in particular how active and involved they are in their job search. Adaptability, mobility, interpersonal prerequisites, manners, and work culture preferences were also vital. External factors prove to be of key importance and include the country's economic situation, macroeconomic processes, and recruitment procedures (McQuaid and Lindsay 2005).

Analysing the determinants of the successful transition of this group seems to be particularly useful as it gives rise to a series of important and long-term social, psychological, and economic consequences. First of all, the period between graduation and first employment, as well as the type of first job after graduation, has a long-lasting impact on the person's decisions with regard to their own career development. In a sense, it pre-determines the graduate's actions at later stages of their career (Bańka 2005) and conditions an actual transition to the world of adulthood and financial independence (Rożnowski 2009). And it is this financial independence which is the foundation for stimulating a series of demographic processes, including, in particular, marriages, births, and migration processes. These, in turn, may have a crucial impact on the demographic structure in the given area. A smooth transition to the job market limits the risk of deterioration of graduates' educational capital that was acquired thanks to significant investments made by them and by the state (Piróg 2012).

One of the central factors having an impact on the speed and type of transition is the ability to plan and execute an effective job search strategy. Job-seeking methods vary in terms of cost and how effective they are (Roper 1988). The combination of chosen methods and one's involvement in the job search is recognised as a decisive factor which determines the success of transition (Salas-Valasco 2007; Barros et al. 2011). The selection of job search methods has a key significance because, among others, they give one access to different labour market areas.

### **Job search methods of university graduates**

There is a wide range of job search methods at every graduate's disposal, and job seekers engage in those activities with varying intensity. University graduates have theoretically the highest chances of success in finding a job compared to graduates of other institutions. This is because sooner or later, regardless of job search methods used, recruitment will involve some interpersonal contact, and university graduates should be best prepared for it (Weber and Mahringer 2008).

Both theoretical and empirical studies highlight the significance of informal job search methods among university degree holders. This results from the fact that this group has relatively the best quality social network (3F: families, friends, firms; 3B: binding, bonding, belonging), thereby ensuring they have the best access to data about potential vacancies (Ben-Porath 1980). Those informal channels of information exchange between job seekers and employers are perceived to be the most effective, the fastest, and the most affordable (Fernandez et al. 2000). A network of contacts constitutes a database of sorts, available only to chosen people and can provide assistance in preparation for interviews or be a source of references (written or oral), all which work in favour of job seekers (Lambert et al. 2006; Caliendo et al. 2010). Furthermore, research conducted in other countries indicates that job search methods evolve depending on how long a given person is unemployed and the longer the time, the more often informal job search methods are used (Karamessini 2010; Green 2012).

Among formal methods, direct contact with the employer (sending a resume, telephone call, face-to-face meeting initiated by the job seeker) is usually seen as crucial. However, research shows that this method is becoming less and less popular among graduates due to a high rate of rejection or a lack of any contact in response to job applications submitted this way (Kuhn and Skuterud 2004). In addition, nowadays in many large companies, corporations, and civil service employers' (particularly in state and local government administration), recruitment procedures rarely make it possible for the job seeker to initiate a meeting with a prospective employer.

In the day and age of the digitalisation of our everyday life and virtually unlimited access to various types of electronic advertisements, searching for a job online has become very popular. Following vacancies published on the Internet is one of the least demanding methods of collecting information on available posts and sending job applications. This channel also creates new forms of passive job searching; for instance, it allows job seekers to post their own application online which potential employers can browse through (Mang 2012).

A much less common form of job search among graduates is formally institutionalised methods, and within this group, public employment agencies are the least popular. It can be assumed that university graduates have sufficient social capital that allows them to find employment through using the remaining channels. Rare use of public employment agencies may also stem from a belief, based on feedback from the unemployed, that these institutions are somewhat ineffective (Martin and Grubb 2001; Try 2005). Research shows that employment agencies try to fill the gap for employers who do not recruit staff using different means. Jobs offered by employment agencies usually offer lower pay and are generally much less attractive than positions acquired without their help. University graduates may also think that if they contact an employment agency, employers will view them as less attractive candidates because they did not manage to find a job themselves. Institutional methods of job search are employed by university graduates usually when they are unsuccessful using other means and when they expect to face challenges in this area (Holzer 1988; Blau and Robins 1990; Osberg 1993; Lambert et al. 2006).

Empirical research conducted to date on job searching and its effectiveness most often has focused on the impact of gender on the job search (Kulik 2000), in particular on the number of job offers received (Eriksson and Lagerström 2012), the choice of methods and strategies in job seeking (Blau and Robins 1990; Orazem et al. 2003), or the significance of self-confidence in the job search (Lin and Flores 2013). The relationship between the intensity of the job search and remuneration was also studied (Werbel 2000). The number of publications on job search methods and their effectiveness among university graduates is more modest. The most comprehensive insight into this issue was presented in the 1990s by the CHEERS project. Data collected during the project gave rise to several scientific papers. It allowed researchers to establish the structure of the most frequently used methods of job search. Applying for advertised vacancies was ranked first. Approximately half of the respondents contacted prospective employers on their own initiative, over one-third used the assistance of public employment agencies, and nearly one-third utilised their private network of contacts. Responding to advertised vacancies and how active one was in contacting the employers were the two most efficient job search methods, at the time, according to the study. Nearly one-third of the respondents found a job thanks to private contacts (Schomburg and Teichler 2006; Allen and Van Der Velden 2007).

The project also looked into when graduates start to look for a job. This showed that nearly 40 % of university graduates started job searching before graduation, and nearly one in three job seekers did so at the time of graduation. A central factor which determined

success in finding employment was the level of involvement in the job search process. Involvement is manifested, among others, when graduates start looking for a job. It has been established that the sooner this process starts, the higher the chances of success (Salas-Valasco 2007).

Some geographical differences were observed in terms of the methods chosen. For instance, Italian graduates very often relied on private contacts, the Spanish more frequently looked for a job through university careers services, while public employment agencies were most habitually used in France (Schomburg and Teichler 2006). The dominance of private contacts in job-seeking methods in Italy has been maintained because, as research on Padua graduates shows, every second graduate found employment via this method (Boaretto et al. 2006). A very high proportion of effectiveness in using personal contacts was also observed in Greece, where one in five employees found a job thanks to the help of their relatives or friends. The number of people who used this method increased hand in hand with the time which had elapsed since graduation. It reached 51 % among graduates who were still unemployed 5–7 years after concluding their education (i.e. 51 % of unemployed degree holders engaged relatives/friends to help them find a job) (Karamessini 2010). Finally, when it comes to Japan, every third graduate in this country found employment thanks to university careers services or academic lecturers (Schomburg and Teichler 2006, Allen and Van Der Velden 2007). Studies analysed during the literature review show that existing research established which job search methods were preferred by graduates several years after graduation and which turned out to be the most effective. There is, however, a research gap when it comes to research on the job search strategies of recent university graduates, as well as no research that would compare graduates' preferences and plans at the moment of graduation and the actual execution of these plans that could show how effective they were. The need to conduct a research project that would cover university graduates is particularly significant due to the fact that they invested the most time and energy to acquire the competences and qualifications that would allow them to find an attractive job. In spite of this, the percentage of university graduates who perform jobs commensurate with their education level and competences acquired at university decreases. Moreover, the percentage of university graduates who find any work at all is also declining (Ministerstwo 2013). A university diploma has an ever lower impact on a smooth transition while the candidates' behaviour is becoming more and more significant (Piróg 2013a). Therefore, both from an academic and practical point of view, it appears to be vital to establish whether and to what extent planning and specific job search strategies determine the chances of finding employment.

Given the worsening crisis on the labour market—a consequence of the economic downturn, over-education, and a mismatch of skills compared to the actual requirements of the job market—job search strategies have become:

- a significant and thoroughly planned part of job search activities undertaken by university graduates;
- a factor which determines the chances of finding employment and is a significant contributor to predicting the results of transition.

Based on the extant literature and in relation to the first objective of the study presented in this paper, the following hypotheses on job searching among geography graduates are formulated:

1. Informal job search methods will be used more frequently than formal methods.
2. Digital job search methods will be used more frequently than other methods.

3. Direct contact with the employer will not be one of the crucial job search methods.
4. Institutionalised job search methods will be used only occasionally.
5. The earlier students begin their job search, the more likely they were to be employed.
6. The longer the graduate remains unemployed, the more informal the job search methods used.

Having reviewed the existing literature on the topic, the objectives of this article are to establish:

1. which (and to what extent) job search strategies universally recognised in the literature as key for this group are also used by Polish graduates and what is their impact on their situation on the labour market;
2. which job strategies are the best predictors of university graduates' situation at this initial stage of their career development, i.e. university-to-work transition.

Moreover, given the fact that graduates may change specific job search methods if they are unsuccessful in finding employment (Holzer 1988), an analysis was performed to investigate the evolution of job search methods among those graduates who remained unemployed approximately 6 months after graduation.

The final stage of the research project consists of outlining the possible application of the results and translating them into practical ways of preparing the students for future planning and development of their professional careers as well as supporting unemployed graduates as their job search continues.

## Methodology

The author tried to achieve the first objective of the study by diagnostic survey and the second objective of the study by using discriminant analysis.

Before moving on further, it is worth highlighting that there is no institution in Poland which collects detailed data on graduates and their situation on the labour market. Therefore, researchers need to acquire the data on their own, which is tremendously costly and difficult to execute for a number of reasons, among others the strict personal data protection regulations and the reluctance of universities to allow external researchers to verify effects of their work. Furthermore, such questionnaires are prone to the risk of receiving a low response rate (Piróg 2010), and this risk is higher, the more graduates are disillusioned and embittered with their situation on the job market, and statistics show that the disillusioned group is growing in many countries (Ministerstwo 2013).

The data subject to the analysis in the present paper have been collected thanks to a research grant from the Polish Ministry of Science and Higher Education.

The data for the present project were collected during a Polish-wide survey conducted in May/June 2011 (stage one) and January/February 2012 (stage two). A diagnostic survey and questionnaire-based data collection were used to collate the data. Before the main research project was carried out, a pilot study was conducted. The pilot study involved 120 students from the Pedagogical University of Krakow.

The first stage of the study was addressed to students graduating from full-time geography degree programmes in the academic year 2010/2011 in all fourteen higher education institutions which offer geography degrees in Poland. Official letters were sent to all geography faculty heads asking for consent to carry out a survey among students of geography degree programmes at a time as close to their graduation date as possible, e.g.

the last class or the dates of their BA and MA *viva voce* examinations. Written consent to conduct the survey was received from 12 out of 14 higher education institutions.<sup>1</sup> The first stage of the project was aimed at identifying planned job search strategies (e.g. when students planned to start looking for a job, what methods they planned to use). During face-to-face meetings with the respondents, 1347 completed surveys were collected—amounting to approximately 78 % of all full-time geography graduates. 1120 questionnaires met the criterion of reliability. Majority of the participants were women (64 %). The group consisted of students of undergraduate bachelor's (46.2 %), postgraduate master's (35.4 %), and long-cycle 5-year master's programmes (18.5 %). The survey was confidential, but not anonymous, as the idea was to perform a follow-up study to check the situation of specific graduates on the job market *vis-à-vis* their earlier plans and expectations. In stage two, an electronic version of the survey was sent out (with a personalised password-protected link required for logging into the database) to 597 graduates, i.e. to all the people who declared in stage one the plan to start looking for employment immediately after graduation. Students who planned to continue their education, those who wanted to combine education with possible employment, and those who had other plans were not included in the second stage of the study. The second stage was carried out approximately 6 months after the official cessation of university education due to the fact that it is usually a period of 6 months which is used to analyse the speed and characteristics of university-to-work transition (Müller and Gangl 2003). The aim of this stage was to, first and foremost, study the situation of graduates on the job market, the length of time it took them to find employment, examine the portfolio of methods which led to them finding a job, and the development of those methods in the event of unsuccessful transition.

As a result, a set with complete data from 375 graduates was extracted translating into a responsiveness rate of 62.8 %. This personalised collective group of graduates was the study group which was subjected to further in-depth statistical quantitative and qualitative analysis. The group consisted of representatives of all degree types in nearly equal measures, i.e. graduates of undergraduate bachelor's programmes accounted for 32.5 %, postgraduates accounted for 32.0 %, and graduates of long-cycle 5-year master's programmes accounted for 35.5 %. As far as gender goes, 65.3 % of the respondents were women. Overall, the respondents were of similar age as nearly 98 % were in the 22–24 age bracket. The majority of graduates came from towns or villages: one out of three respondents came from the country (37 %) and one in four (25 %) from towns with up to 50 thousand inhabitants. The remaining respondents came from medium- and large-size cities (over 200 thousand inhabitants).

The two surveys from each respondent were the basis for analyses. The data were used to identify and create a hierarchy of factors which enhance effective and satisfactory transition from university to employment. The objectives of the research were, among others, to verify the effectiveness of job search methods and analyse possible changes to the range of job search methods used in cases where transition was unsuccessful.

The collected data underwent discriminant analysis using Statistica software. The analysis was aimed at identifying variables used to predict the situation of the graduates (working/unemployed) depending on the job search strategy adopted.

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<sup>1</sup> Pomeranian University in Słupsk, the Adam Mickiewicz University in Poznań, the Jagiellonian University of Kraków, The Pedagogical University of Kraków, the University of Lodz, the University of Warsaw, the University of Wrocław, the Jan Kochanowski University in Kielce, the Nicolaus Copernicus University in Toruń, Maria Curie-Skłodowska University in Lublin, the University of Gdańsk, the University of Silesia.

## Results of empirical research

### Planned job search strategies versus those which proved effective

As indicated by extant studies, an important factor which determines success in finding employment is the moment in which the job search commences, i.e. the sooner this process starts, the higher the chances of success (Salas-Valasco 2007). A similar relationship was observed during empirical research on Polish graduates. Nearly one-fourth (24.5 %) of the respondents proved to have a lot of foresight and started looking for a job even before the formal cessation of their education, mainly in the last year of their degree programmes. Next, nearly one in five respondents (18.9 %) started actively job searching immediately after graduation. The remaining graduates also took up job-seeking efforts relatively quickly after graduation (within 1–2 months). A small percentage of respondents (7.7 %) waited longer than 3 months before they started looking for a job, out of which group nearly 20 % put it off by half a year after their *viva voce* examination.

Job searches proved to be most effective within a short time from graduation. More than half of working graduates found a job within 1–2 months after university, and only 2.7 % found employment more than half a year after graduation. It supports the hypothesis five that the sooner job-seeking efforts commence, the higher the chance for successful transition.

At the time of graduation, the respondents planned to look for a job by browsing and applying for vacancies advertised online (24.6 %), direct contact with an employer, i.e. visits/phone calls ranked second, with one in four respondents choosing this method (23.9 %). The third most popular job search strategy was to utilise previous professional and personal contacts (13.3 %). Other, less frequently chosen methods included browsing vacancies advertised in the printed press (10.5 %), asking relatives for help with job seeking (9.9 %) and visiting employment agencies (7.7 %). Only occasionally did graduates plan to look for a job at university careers services (3.1 %), private recruitment agencies or job fairs. A few people planned to use other methods, not mentioned above (cf. Table 1). This leads us to conclude that the research did not support the hypothesis one that non-formal job search methods are used more frequently than formal ones.

The choice of planned job search methods was only marginally different between the genders. Women chose to contact the employer more frequently than men (a difference of 2.4 percentage points) and apply for vacancies published online (4.3 percentage points). Men, on the other hand, were more willing than women to explore previous professional and personal contacts in their job-seeking efforts (a difference of 5.6 percentage points) and count on their relatives' help (3.6 percentage points). These differences are, however, statistically insignificant.

The planned methods of job searching generally turned out to be good choices. Applying for vacancies posted online was the most effective way of finding employment (36.1 %). This result supports the hypothesis 2 that digital methods will be used more frequently than other ones. One in five respondents (20.2 %) found a job as a result of direct contact with the employer which only partially corroborates hypothesis 3 and demonstrates that this form of job search remains a significant but not a crucial method in Poland. Nearly as many respondents (19.7 %) found a job using networks of personal contacts, i.e. thanks to the help of their relatives. One in nine graduates admitted that professional and personal contacts proved to be most effective in their job search (13.7 %). Research shows that in Poland not only did many geography graduates find a job thanks to

**Table 1** Planned job search methods, methods which proved effective, and methods used by those who continue to look for a job

| Job search method                                   | Method planned to be used at the time of graduation (% responses) <sup>1</sup> | Method which proved to be effective (% graduates) <sup>2</sup> | Method used by graduates who are still looking for a job (% responses) <sup>3</sup> |
|-----------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Direct contact with employer (visit/telephone call) | 23.9                                                                           | 20.2                                                           | 13.7                                                                                |
| University careers service                          | 3.1                                                                            | 1.6                                                            | 4.7                                                                                 |
| Personal/professional contacts                      | 13.3                                                                           | 13.7                                                           | 2.5                                                                                 |
| Vacancies advertised online                         | 24.6                                                                           | 36.1                                                           | 33.5                                                                                |
| Vacancies advertised in the press                   | 10.5                                                                           | 0.5                                                            | 15.6                                                                                |
| Private recruitment company                         | 2.2                                                                            | 0.5                                                            | 1.7                                                                                 |
| Public employment agency                            | 7.7                                                                            | 3.3                                                            | 7.5                                                                                 |
| Family/friends                                      | 9.9                                                                            | 19.7                                                           | 16.8                                                                                |
| I posted an advertisement myself                    | 1.3                                                                            | 0.0                                                            | 1.1                                                                                 |
| Information sessions                                | 0.6                                                                            | –                                                              | 1.7                                                                                 |
| Job fairs                                           | 2.1                                                                            | 0.5                                                            | 0.6                                                                                 |
| Other                                               | 0.8                                                                            | 3.8                                                            | 0.6                                                                                 |

<sup>1</sup> At the time of graduation

<sup>2</sup> Method was effective (graduate found employment)

<sup>3</sup> Six months after graduation (in the event of remaining unemployed)

informal job-seeking methods, but one in three graduates of universities, universities of technology, and technical higher education institutions found employment thanks to this method (Żyra 2007; Cwiąkalska et al. 2011; Mazak 2012; Losy 2012). The remaining methods brought about a desired effect for only a small fraction of graduates, and among them, the category “other methods” proved to be the most effective (3.8 %). Other methods included jobs offered after Comenius Assistantships or non-paid internships, applying for vacancies advertised on the notice boards of their universities or employment found by chance. It has also been observed that 3.3 % of the respondents found a job through employment agencies. It corroborates the hypothesis 4 that institutionalised job search methods are only occasionally used by the surveyed graduates. Only a few respondents declared finding a job by applying to vacancies advertised in the press or during job fairs. The low popularity of these methods established by researchers from other countries does not apply solely to geographers but to all university graduates in Poland. It can be assumed that at the time when transition of Polish graduates to employment was going smoothly, graduates did not rely on the support of various institutions to find a job. Up until the beginning of the twenty-first century, graduates did not look for job-seeking assistance in employment agencies (less than 1 % of answers) (Cwiąkalska et al. 2011; Losy 2012).

The impact of the graduates' gender on the effectiveness of job searching was also observed in the case of one job-seeking method, i.e. job searching via direct contact with an employer. It turned out that as many as 23.5 % of women and only 14.7 % of men found a job using this method—translating into a 8.8 percentage point difference in favour of female graduates. In the case of other job search methods, no difference was observed as far as gender-specific effectiveness goes. (Table 2).

**Table 2** Planned job search methods and methods which proved effective by gender

| Job search method                                   | Method planned to be used at the time of graduation (% responses) |       | Method which proved to be effective (% graduates) |       |
|-----------------------------------------------------|-------------------------------------------------------------------|-------|---------------------------------------------------|-------|
|                                                     | Female                                                            | Male  | Female                                            | Male  |
| Direct contact with employer (visit/telephone call) | 24.6                                                              | 22.5  | 23.5                                              | 14.7  |
| University careers service                          | 3.2                                                               | 2.9   | 0.9                                               | 2.9   |
| Personal/professional contacts                      | 11.1                                                              | 17.3  | 13.0                                              | 14.7  |
| Vacancies advertised online                         | 25.5                                                              | 22.8  | 35.7                                              | 36.8  |
| Vacancies advertised in the press                   | 11.5                                                              | 8.6   | 0.9                                               | 0.0   |
| Private recruitment company                         | 1.9                                                               | 2.6   | 0.0                                               | 1.5   |
| Public employment agency                            | 8.8                                                               | 6.0   | 2.6                                               | 4.4   |
| Family/friends                                      | 9.1                                                               | 11.5  | 19.1                                              | 20.6  |
| I posted an advertisement myself                    | 0.8                                                               | 2.1   | –                                                 | –     |
| Information sessions                                | 0.7                                                               | 0.5   | –                                                 | –     |
| Job fairs                                           | 2.2                                                               | 1.8   | 0.9                                               | 0.0   |
| Other                                               | 0.5                                                               | 1.3   | 3.5                                               | 4.4   |
| Total                                               | 100.0                                                             | 100.0 | 100.0                                             | 100.0 |

### Changes to job search strategies in the event of failure to find employment

Unemployed people preferred to use slightly different job search methods to their peers who were successful in finding a job. They were more inclined (by 5.8 percentage points) to meet employers directly, were equally involved in applying for vacancies advertised online, and also wanted to tap into (although less often by 4.5 percentage points) professional and personal contacts. Furthermore, they planned to apply for vacancies advertised in the printed press more often (by 0.1 percentage points), were more likely to approach employment agencies (by 2.6 percentage points), and were less prone (by 4.5 percentage points) to count on the help of their relatives. Therefore, the study partially supports the hypothesis 6 that the longer the unemployment, the more often graduates resort to non-formal methods.

A failure to find employment translated into some geographers turning to institutional methods and resulted in an increased (by 3.2 percentage points) interest in university careers services. Other changes observed in the job search methods used by graduates included a considerable drop (by 17.3 percentage points) in initiating direct contact with employers. Moreover, graduates were more inclined to apply for vacancies advertised in the press (an increase of 6.7 percentage points) and online (an increase of 6.1 percentage points), as well as use family connections (10.8 percentage points increase). Interestingly, they were less interested in utilising their professional/personal contact network (7.2 percentage points).

### Prediction of successful/unsuccessful transition

To predict the effectiveness of the chosen job search strategy, a discriminant analysis was used which was performed with Statistica software. This type of analysis was used as it allows one to determine which variables discriminate the given set and divide it into

natural groups—the group of working and unemployed graduates in this case. The division was based on the collective and coexisting impact of several or more independent variables whose interrelationship was the core of educational capital (Klecka 1981; Radkiewicz 2010). The data collected during the empirical study were assigned parameters and coded.

The following variables were chosen for analysis:

- job search methods used (direct contact with employer, university careers service, professional and personal contacts, vacancies advertised online, vacancies advertised in the printed press, private recruitment agency, public employment agency, family contacts, own advertisement in the press/online, job fairs, other);
- when they started looking for a job (before their *viva voce* examination; directly after the examination; 1–2 months after their *viva voce* examination; over 6 months after their examination).

Analysis parameters for the discriminatory variables are shown in Table 3.

After the analysis, the following significant predictors were identified: direct contact with employer; university careers service; vacancies advertised in the printed press; public employment agency; family contacts; job fairs; commencement of job search in relation to their *viva voce* examination: before their *viva voce* examination; directly after; 1–2 months after; over 6 months after. The remaining variables held relevance below the standard critical value of 0.05 which meant they did not show a statistically significant contribution to the discrimination between the groups. Moreover, the model includes variables of statistical significance in discriminating working and non-working people of a value higher than  $F = 1$ .

The conducted discriminant analysis allows us to conclude that the variable which best predicts a graduate's status (working/unemployed) is the job search method involving applying for vacancies advertised in the press ( $F = 57.9$ ). Other variables which support this process (although to a lesser extent) include: commencement of job search before *viva voce* examination ( $F = 22.2$ ) and directly afterwards ( $F = 15.4$ ), using a public employment agency to find work ( $F = 15.4$ ), university careers service ( $F = 11.8$ ), and

**Table 3** Parameters of analysis between discriminating variables

| Variables                                            | Wilks' lambda | F to remove | Statistical significance | Tolerance | 1-Toler. R-squared |
|------------------------------------------------------|---------------|-------------|--------------------------|-----------|--------------------|
| Vacancies advertised in the press                    | 0.794983      | 57.87035    | 0.000000                 | 0.838012  | 0.161988           |
| University careers service                           | 0.707404      | 11.83571    | 0.000649                 | 0.939027  | 0.060973           |
| Public employment agency                             | 0.714118      | 15.36489    | 0.000106                 | 0.931479  | 0.068521           |
| Job fairs                                            | 0.701038      | 8.48956     | 0.003795                 | 0.933023  | 0.066977           |
| Before their <i>viva voce</i> examination            | 0.727143      | 22.21122    | 0.000003                 | 0.661667  | 0.338333           |
| Directly after their examination                     | 0.714219      | 15.41807    | 0.000103                 | 0.695411  | 0.304589           |
| Personal/professional contacts                       | 0.690982      | 3.20363     | 0.074315                 | 0.939139  | 0.060861           |
| 3–6 Months after their examination                   | 0.704505      | 10.31187    | 0.001441                 | 0.791025  | 0.208975           |
| Family/friends                                       | 0.698716      | 7.26934     | 0.007344                 | 0.887250  | 0.112750           |
| 1–2 Months after their examination                   | 0.696461      | 6.08372     | 0.014108                 | 0.725162  | 0.274838           |
| Vacancies advertised online                          | 0.690489      | 2.94468     | 0.087021                 | 0.764048  | 0.235952           |
| Direct contact with employer (visit/ telephone call) | 0.693860      | 4.71640     | 0.030529                 | 0.906013  | 0.093987           |
| Private recruitment company                          | 0.690066      | 2.72216     | 0.099836                 | 0.948651  | 0.051349           |
| I posted an advertisement myself                     | 0.687716      | 1.48723     | 0.223445                 | 0.973238  | 0.026762           |

**Table 4** Test for statistical significance of discriminant variables

| Function | Eigenvalues | Canonical correlations | Wilks' lambda | Chi-squared | Degrees of freedom | Significance of $F$ |
|----------|-------------|------------------------|---------------|-------------|--------------------|---------------------|
| 1        | 0.460095    | 0.561349               | 0.684887      | 138.5316    | 14                 | 0.00000             |

**Table 5** Classification matrix presenting the assignment of students to the potentially working/non-working groups

| Groups                  | Percentage of correctly assigned students | Predicted classification |         |
|-------------------------|-------------------------------------------|--------------------------|---------|
|                         |                                           | Non-working              | Working |
| Observed classification |                                           |                          |         |
| Non-working             | 58.42                                     | 111                      | 79      |
| Working                 | 73.51                                     | 49                       | 136     |
| Total                   | 65.87                                     | 160                      | 215     |

the commencement of job searching 3–6 months after their *viva voce* examination ( $F = 10.3$ ).

Average values of canonical variables of the discriminant function amount to, respectively  $-0.685$  (for the working graduates) and  $0.667$  (for those who remained unemployed). The discrimination power of the estimated function was analysed using canonical analysis. Calculation results allow us to conclude that only those variables with the highest discrimination power properly discriminate the students into two groups: a group characterised by successful transition (“with a chance to find employment”) and one with a risk of failure in transition (“with a low chance to find employment”). This is because Wilks' lambda coefficient is relatively high and amounts to  $0.6849$  (cf. Table 4).

Based on the value of the discriminant function, the software performed a classification whose collective results are collated in the classification matrix table (cf. Table 5). Under the above classification, over  $73.5\%$  of graduates were rightly classified to the group of working graduates and  $58.4\%$  to the group of unemployed graduates. The results show that the model is characterised by an average performance in predicting the status of graduates belonging to the working group, but yet significantly better than in the case of those who belong to the group of unemployed graduates.

## Conclusions

### Theoretical contributions

Job search methods, in particular in the context of growing unemployment, appear to be one of the more difficult and complex processes which engage all aspects of a person's life. Both literature reviews and empirical research point to the fact that successful transition to employment is to a large extent in a graduate's own hands. Unlike economic policy or demographics, graduates have control over their choice of job search strategy and when they start the job-seeking process. The right choice of strategy, the prompt commencement of job searching coupled with the right choice of job search methods are key factors contributing to graduates' success on the labour market. Theoretical and empirical studies

published so far and those analysed in the current article have identified a wide range of job search methods at the disposal of university graduates.

Conducted empirical studies allowed the researcher to verify hypotheses formulated prior to the project. We found that informal job search methods are used less frequently than formal methods, but they are undoubtedly a significant factor in successful job seeking among Polish graduates. They were ranked third among the most effective job search methods, after digital and direct contact methods. It is thanks to them that nearly one in five graduates found employment. However, it is worth emphasising that in Poland, it is difficult to unambiguously say whether job searching based on the 3F social network is treated by graduates solely as a source of information on vacancies. The difficulty stems from the fact that respondents often used the Polish word *znajomości* (“contacts”) in their surveys to describe how they found a job. This particular term has negative connotations and may (but does not have to) mean various forms of nepotism, often involving hiring a recommended person not because of their abilities but rather hiring them due to some interdependencies between the employer and the recommending person. Interviews conducted with selected respondents lead one to conclude that the graduates were convinced that using such “contacts” is a job search method universally adopted by their peers to “fix themselves up with a job”.

Findings indicate that digital job methods are used more frequently than other methods. Digital methods ranked first among all the methods planned to be implemented by graduates at the end of studies. Over one-third of geographers found employment thanks to digital methods. The benefits of online job offers outlined above are clearly one of the reasons for such high interest in these job search methods and, consequently, contributes to its considerable effectiveness. We also found that direct contact with the employer remains a significant job search method in Poland. It is still one of the leading methods as it ranked second both among the most popular and the most effective job search methods. It is worth highlighting that the relative popularity and effectiveness of these methods resulted from the fact that the respondents wanted to work, first and foremost, in the public sector, particularly in the civil service sector, local government, and education (Piróg 2014a). Application procedures in those institutions allow the candidates to initiate a meeting with an employer (after the publication of a vacancy in a public information bulletin).

It was found that institutionalised job search methods are only occasionally used by the surveyed graduates. It might be due to the fact that in Poland, visits to employment agencies were and still are perceived as a proof of helplessness, low competences, and the low value of one’s educational capital on the market. Therefore, it was much more common for people with higher education to go abroad and take up employment there. Emigration has been perceived in Poland as a more reasonable solution in cases of difficulty finding a job—even if the position held abroad is considerably below one’s qualifications (Piróg 2013b). University careers services are on the other hand institutions focused primarily on helping students and graduates find employment. However, Polish graduates rarely plan on using these institutions and hardly ever use them in fact. One of the reasons behind it may be the fact that careers services are a relative novelty; they operate within a given university, and their function is often associated with providing training and not actual support for students and graduates in their university-to-work transition.

The research project also demonstrated that the sooner job-seeking efforts commence, the higher the chance for successful transition. More than half of working graduates found a job within 1–2 months after university and individual respondents from this group found employment more than half a year after graduation. Moreover, findings partially indicate that the longer the unemployment, the more often graduates resort to non-formal methods. Graduates were more active in pursuing family contacts, but contact with colleagues and

friends weakened at the same time. Long and often futile job seeking discouraged graduates in utilising highly engaging strategies in the future and made them change their portfolio of methods. The shift often involved the use of less engaging methods and a higher reliance on other people's assistance in finding a job for them—in particular the assistance of relatives. Changing future job search strategies involved, in particular, giving up on initiating direct contact with possible employers and stopping inquiring among friends and former colleagues about new vacancies can give rise to some concerns. These concerns are related to the fact that graduates who remain unemployed over time give up on the very job search methods which have proven to be the most effective ones for their peers who found employment.

The shift of job-seeking methods seems to result from frustration and exasperation with their existing efforts and a drop in motivation among the respondents. Unemployed graduates clearly moved away from those methods which required their emotional and physical involvement and financial investment in favour of more passive job-searching methods, often involving bringing their relatives into the process. The burden, in particular the mental burden, of highly active job-seeking efforts, i.e. initiating contact with employers, can be illustrated by the reports of working graduates on their experiences in using this job search method. For instance, interviews conducted among graduates who work as teachers, which is still the main career destination for geography graduates, clearly prove that getting into direct contact with a school can be a frustrating experience. Graduates reported that such experiences were common, not just when they tried to arrange a meeting with a school principal, but when they merely wanted to leave their resumes and cover letters with the school secretary. Here, they often encountered stern looks and arrogant comments on how futile their actions were (Piróg 2013b).

As the conducted discriminant analysis shows, the choice of appropriate job search strategies and the degree of involvement in the process during the transition period (6 months following graduation) allow us to predict with 73 % probability that the participant will belong to the subgroup of working graduates. Based on average canonical values, it can be concluded that the most significant variable in predicting a graduate's status on the labour market is the adopted job search method. The one that clearly does not facilitate finding employment is applying for jobs advertised in the press. Moreover, focusing on finding a job through public employment agencies and university careers services turned out to be factors that had a high failure rate.

Applying for vacancies in the press appears to be a method less commonly used by people with degrees. In the 1990s, over one-fourth of Polish university graduates found information on vacancies from the press or other printed media (Bielecki 2008). Several years later, only 13 % of graduates found a job thanks to advertisements in the press (Żyra 2007), and currently, this share ranges from 2.5 to 4 % (Ćwiakalska et al. 2011; Mazak 2012). Academic careers services are new institutions in Poland, and not all of them have yet earned the trust of employers. Consequently, their list of vacancies is often limited, and this hampers the effectiveness of these institutions for both employers and graduates. Public employment agencies usually advertise vacancies involving manual work or other positions where higher education is not required, hence their low contribution to the successful transition of university graduates (Piróg 2013b).

### **Practical contributions**

No group, including university graduates, is homogenous. Graduates differ from one another; they attended different universities, varying specialisations; they have different

social backgrounds; and they enter their local labour market that has different characteristics, capacity, and situations. Finally, they differ in their aspirations, creativity, and the degree of involvement in the job search process. Nevertheless, the results of the present study can be used for designing practical measures aimed at improving the employability of recent university graduates operating under similar macroeconomic conditions. Such measures include, in particular, drafting a more suited personal development plan (PDP) during degree programmes. This should be designed not only by academic teachers and careers service employees but by the students themselves.

Supporting students in planning and developing their career paths still appears to be key in those countries, including Poland, where such support services are still in their infancy. Each Polish university has a careers service, but their actions are loosely linked with the teaching process. Degree programmes only rarely include mandatory or optional courses on career development. This is a result of academics' aloofness towards employability and their concern not to lose the academic nature of university training (Żyra 2007). Such an attitude gives rise to some concerns, particularly in the light of rising difficulties of graduates in finding employment. Graduates themselves see these types of courses as necessary by saying, for instance: "*the majority of us has absolutely no idea how to find our way around the labour market*" (MA degree programme graduate). In their opinion, courses preparing them for job seeking and teaching them how to effectively get in contact with employers should be an obligatory part of the curriculum (Piróg 2014b).

The results of the present study may serve as a guideline for implementing innovation and changes in three inherent PDP areas: improved academic performance, career preparation, and useful skills (Croot and Gedye 2006). Within the area of improved academic performance, the results may constitute a premise to revamp the course curriculum to include information on the effectiveness of various job search methods used by graduates during transition. The results can also be compared to the students' current beliefs and intentions as regards job seeking. Secondly, within the area of career preparation, having defined their professional aspirations, students/graduates can use the results to develop a customised career path plan with a particular focus on the job search strategy they are going to pursue after graduation. Such a plan will map out the necessary areas in which the candidates need to acquire useful skills and will help graduates to prepare for efficient job searching by using the most effective strategies. Based on the research results, it appears right to improve the skills related to online job search and applying for vacancies advertised online. Due to the fact that women were more successful in finding employment after direct contact with an employer, it seems justified to extend the courses to include workshops or analysis of case studies which highlight the differences between job interviews held by women and men. The strengths of female candidates should be identified, and the behaviour should be adapted to achieve optimum results in the case of men as well.

Recognising a change in job search methods in the event of failure may be a cue for both job-seeking graduates and the people who support them in their efforts as it can help them fine-tune their job search strategy to achieve the best results possible.

### Limitations and future research

One needs to notice that even though the survey was nationwide and included a significant number of respondents, it only applies to students and graduates of geography degree programmes. Therefore, while its results might also allow for drawing parallels and providing insights into the situation of graduates of related disciplines, caution needs to be

taken if one wants to conduct comparative analysis between higher education graduates of divergent disciplines of study.

Another limitation of the study was a low responsiveness rate in the second stage of the study which amounted to 62.8 %. The reason for that was mainly the fact that 50 % of the respondents did not have work at the time of the survey despite the fact that finding employment was a priority for them (Piróg 2014a). Disillusionment with the fact that the hard work at university did not translate into employment and financial independence resulted in a reluctance to complete the questionnaire. Therefore, even though the responsiveness achieved in the study allows the author to use the data for performing analyses and drawing general conclusions, it does not constitute an example of the highest indicators and does not provide material for formulating categorical conclusions. Secondly, the graduates who refused to fill in the questionnaire at the second stage of the study were mainly the unemployed ones. They often refused to participate saying that they resented higher education in general for not preparing them to find employment. Therefore, in the case of the present research, it is possible that a higher response rate could have changed the overall results in a more significant way than in the case of other social research projects.

The topic of university graduates' transition to the job market, including the significance of job searching for successful transition, requires further research. This is largely due to the fact that when the process of university-to-work transition is not smooth, various negative consequences arise. These include a decreasing number of young people who want to pursue degree studies and more scepticism towards higher education institutions. Research on the transition of graduates from specific disciplines of study is fundamental to these disciplines survival within the market of academic services and, at the same time, reduces concerns related to the further decline in prestige and status in some disciplines of science. Given the current situation on the market of education services, attracting young people to any given field of study might be more important than ensuring that research within the given discipline has practical application and social impact (Lisowski 2008). An issue that appears to be a challenge for researchers in the changing social and economic situation is to establish what the role of higher education institutions is in securing a higher status for their graduates on the labour market, changing employment structures and generating social change which results from the speed and characteristics of graduates' university-to-work transition.

The issue of employability in positions related to one's field affects graduates internationally. Therefore, it is particularly desirable, though extremely challenging due to the lack of comparable and representative data, to conduct comparative analyses and try to establish tendencies and trends on a transnational scale.

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