



The impact of overeducation on job outcomes: Evidence from Saudi Arabia

Mohammed Alzubaidi 



Faculty of Educational Graduate Studies, King Abdulaziz University, Saudi Arabia

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ABSTRACT

The purpose of this study is to analyze the impact of overeducation on several job attitudes and outcomes. The study is based on cross-sectional survey data from 398 Saudis in the labour market. Drawing upon person–job fit theory, two different self-assessments—direct self-assessment and indirect self-assessment—are used to examine how overeducation influences job satisfaction, organizational commitment, turnover intentions, and job performance. The results of the hierarchical regressions suggest that overeducation across the two measures is significantly negatively related to job satisfaction and organizational commitment, while significantly positively related to turnover intentions, even after controlling for different confounding variables. However, no significant impact was found for job performance. Furthermore, despite the slight differences in terms of the magnitudes of their effects, the two self-assessment measures of overeducation largely overlap and yield similar conclusions. These findings confirm that except for job performance, overeducation—as a form of person–job misfit—is an important predictor of job attitudes and outcomes. The current study extends the existing literature by providing comparative empirical evidence on the impact of overeducation in Saudi Arabia.

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Introduction

Numerous studies have examined the prevalence and consequences of overeducation among individuals in diverse contexts, industries, and professions. Although overeducation varies considerably between countries and across chosen measurement methods, it is found to be consistently prevalent in both developed and developing countries (Hartog, 2000; McGuinness, Pouliakas, & Redmond, 2018). The average incidence of overeducation across different measures is estimated to be around 25% in developed countries (e.g., the United States and Europe: Battu, Belfield, & Sloane, 2000; Dolton & Vignoles, 2000; Groot & Maassen van den Brink, 2000), and 36% in developing countries (Handel, Valerio, & Puerta, 2016). With the further expansion of higher education coupled with the low demand for educated labour, the evidence suggests that an increased number of individuals may be prone to the experience of being overeducated (Maynard, Joseph, & Maynard, 2006; Krafft, Branson, & Flak, 2019).

In addition to representing an inefficient allocation of human and financial resources, overeducation is consistently hypothesised to be related to various negative consequences in terms of personal, job, and career attitudes and outcomes. Specifically, researchers have suggested that overeducation is associated with significant wage penalties, poor psychological health (e.g., higher psychological stress), negative job attitudes (e.g., lower job satisfaction and organisational commitment), withdrawal intentions and behaviours, and lower job performance (Feldman, 1996; G. Johnson & W. Johnson, 1996, 2000a; Hartog, 2000; Velasco, 2000; Maynard et al., 2006; Korpi & Tåhlin, 2009; Ortiz, 2010). On one hand, given the large proportion of the workforce who may be overeducated, and the significant cost of overeducation for individuals, their firms, and society on the other, many researchers in Western countries have attempted to examine the potential effects of overeducation. However, little is known about the effects of being overeducated in a non-developed country. Therefore, it is crucial to further examine these potential negative consequences and their implications, particularly in emerging markets where overeducation is likely to be a more severe issue (McGuinness et al., 2018).

* Corresponding author. ORCID ID: 0000-0002-1661-3616

The current paper aims to extend the research on the effects of overeducation by examining the relationship between overeducation and relevant job attitudes and outcomes among Saudi graduates, including job satisfaction, organisational commitment, turnover intentions, and job performance. The novelty of this paper might be manifested in its focus on overeducation effects among the under-researched population of Saudi graduates. As is the case for many developing countries, no empirical evidence from Saudi Arabia has yet emerged on the impact of overeducation. Overeducation might be widespread in the Saudi labour market. Given the high unemployment rate for Saudis (12% over the last five years), especially among those holding a university degree or higher—who represent around 58% of unemployed Saudis (General Authority for Statistics, 2019)—it is expected that many graduates who cannot secure a comparable job are likely to take jobs for which they are overeducated.

This study contributes to the existing literature in several ways. First, it combines two direct and indirect self-report measures into the analysis of overeducation, which allows the exploration of the relative impact and importance of each indicator to each job outcome. Most of the previous studies have relied on a single measure and focused mainly on the effects of perceived overqualification. Second, this study adds to the literature by investigating the relationship between overeducation and multiple job attitudes and outcomes, as the empirical evidence on some of these relationships is either lacking or mixed. Only a small body of literature has examined the relationship between overeducation and such job attitudes or outcomes as turnover intentions and job performance, with the majority being concerned with the overeducation–job satisfaction relationship.

This paper begins with an overview of the adopted conceptual framework for understanding overeducation and its relations, and then summarises the relevant literature on the impact of overeducation on job attitudes and outcomes. Next, the data, methods, and measures used in the conduct of the study are described, followed by a detailed analysis of the results. The paper ends with a discussion of the main conclusions and limitations.

Literature review

Overeducation as person–job misfit

An individual is generally defined as being overeducated if they possess more education than what is normally required for their current job (Badillo-Amador, Garcia-sanchez, & Vila, 2005; McGuinness, 2006). Researchers have consistently hypothesised that overeducation results in negative and undesirable consequences for both the individual and the organisation (e.g., Feldman, 1996; McKee-Ryan & Harvey, 2011). Prior research has employed several theoretical perspectives to explain such negative outcomes.¹ The person–job fit theory (hereinafter P–J fit; Edwards, 1991) is one of the most commonly used and useful frameworks to understand the impacts of overeducation (Maynard et al., 2006; Maynard & Parfyonova, 2013; Luksyte & Spitzmueller, 2011). P–J fit is defined as the congruence between an individual’s characteristics and those of their job (Edwards, 1991; Kristof, 1996). The P–J fit literature suggests that a greater degree of fit between individuals and their jobs is linked to positive individual and organisational outcomes, including positive job attitudes and outcomes (Edwards, 1991; Kristof-Brown, Zimmerman, & Johnson, 2005). There are two distinct types of P–J fit: the job demands–person abilities fit and the job supplies–person needs fit (French, Caplan, & Harrison, 1982; Edwards, 1991). The demands–abilities fit refers to the match between an individual’s knowledge, skills, and abilities and their job’s requirements. The supplies–needs fit refers to the congruence between an individual’s needs, goals, desires, and preferences and the perceived qualities of their job (Edwards, 1991; Cable & Edwards, 2004; Kristof-Brown et al., 2005).

In line with prior research (e.g., Feldman, 1996; G. Johnson & W. Johnson, 1996; Maynard et al., 2006; Wassermann, Fujishiro, & Hoppe, 2017), overeducation in this study is considered as a form of person–job misfit. By definition, overeducation represents an example of a poor ability–demand fit, where overeducated individuals suffer from a discrepancy in the form of surplus education (i.e., knowledge, skills, and abilities) relative to the demands or requirements of their job (Maynard et al., 2006; Harari, Manapragada, & Viswesvaran, 2017). Building on the P–J fit theory and the evidence from previous studies, overeducation reflects a mismatch that should be associated with negative consequences for job attitudes and outcomes, including job satisfaction, organisational commitment, turnover intentions, and job performance (e.g., Verquer, Beehr, & Wagner, 2003; Kristof-Brown et al., 2005; Hoffman & Woehr, 2006; Maynard et al., 2006; Erdogan & Bauer, 2009). Therefore, the results of the present study will be discussed and interpreted in light of the P–J fit theory and previous research.

Impact of overeducation on job attitudes and outcomes

Previous research has predicted various negative job outcomes from overeducation (Feldman, 1996). However, the existing empirical evidence on most of these hypothesised relationships remains lacking. The impact of overeducation on job satisfaction seems to attract the most attention from empirical literature, and relatively little work has studied the impact of overeducation on other job attitudes and outcomes (Peiró, Agut, & Grau, 2010; Kim & Choi, 2018). The following sections provide a review of the previous empirical findings on the relationships between overeducation and the job attitudes and outcomes of interest.

¹ These include the relative deprivation theory, human capital theory, and labour utilisation framework, among others (see McGuinness, 2006; Luksyte & Spitzmueller, 2011; McKee-Ryan & Harvey, 2011).

Job satisfaction

The empirical evidence in previous research indicates that overeducation is negatively related to job satisfaction among individuals in various contexts (Khan & Morrow, 1991; Feldman & Turnley, 1995; Feldman, 1996). Specifically, studies have found a negative relationship between overeducation (e.g., surplus education and perceived overqualification) and job satisfaction among university graduates (Feldman & Turnley, 1995; Burke, 1997; Maynard & Parfyonova, 2013; Turmo-Garuz, Bartual-Figueras, & Sierra-Martinez, 2019), low-skilled workers (G. Johnson & W. Johnson, 1996; Erdogan & Bauer, 2009), semi-skilled workers (Tsang, 1987; Fine & Nevo, 2008), high-skilled workers (McKee-Ryan et al., 2009), and expatriates and immigrants (Bolino & Feldman, 2000; Holtom, Lee, & Tidd, 2002; Lee, 2005; Wassermann et al., 2017).

A consistent pattern of results on the negative link between overeducation and job satisfaction has also emerged across countries, especially in the United States (G. Johnson & W. Johnson, 2000a; W. Johnson, Morrow, & G. Johnson, 2002; Maynard & Parfyonova, 2013) and European countries including the United Kingdom (Battu et al., 2000; Nabi, 2003; Green & Zhu, 2010), Belgium (Verhaest & Omev, 2006a, 2006b), Switzerland (Diem, 2015), Spain (Peiró et al., 2010), and Australia (Fleming & Kler, 2008, 2014). The negative effects of overeducation on job satisfaction have also been reported in some developing countries such as Turkey (Erdogan & Bauer, 2009), Pakistan (Farooq & Ahmed, 2008; Farooq, 2011), and Malaysia (Zakariya & Battu, 2013).

Furthermore, despite the different methods used in the literature to assess overeducation and their inconsistencies,² similar conclusions about the effects of overeducation on job satisfaction are reported across measures whereby job satisfaction is found to be lower for overeducated individuals in relation to matched individuals (e.g., Battu et al., 2000; Verhaest & Omev, 2010).³ In addition to overall job satisfaction (i.e., satisfaction with the job as a whole), studies have also examined the relationship between overeducation and different facets of job satisfaction (e.g., intrinsic, extrinsic, social, and general facets), and found that the relationships seem to vary across these facets (e.g., G. Johnson & W. Johnson, 1992, 2000a, 2000b; W. Johnson et al., 2002; Maynard et al., 2006; Belfield, 2010; Peiró et al., 2010; Fleming & Kler, 2008).

Conversely, not all studies have shown a significant relationship between overeducation and job satisfaction. Some studies reported a non-significant effect of overeducation on job satisfaction (Allen & van der Velden, 2001; Ren, Bolino, Shaffer, & Kraimer, 2013), while others have found overeducation to exert a negative impact on job satisfaction only when it is accompanied by skill under-utilisation (i.e., individuals are both overeducated and over-skilled; Badillo-Amador, López-Nicolás, & Vila, 2012; Green & Zhu, 2010; Sloane & Mavromaras, 2020).⁴ McGuinness and Sloane (2011) stated that as overeducation could be voluntary in many cases (e.g., when workers trade off the education–job match with other desirable aspects of the job), this mitigates its negative effect on job satisfaction (see also Davia, McGuinness, & O’Connell, 2017).

Despite the complexity of the overeducation–job satisfaction relationship, with different measures used to assess overeducation and multiple studied facets of job satisfaction, a negative relationship between the two has been established in the literature. Consequently, overeducation is generally found to adversely affect both global and facet job satisfaction, although the magnitude and significance of the effects differ across the different facets (McKee-Ryan & Harvey, 2011).

Organisational commitment

Besides job satisfaction, the literature on the impact of overeducation on job attitudes also devotes attention to organisational commitment. However, there has been little research on this relationship, and thus no clear pattern of findings has yet emerged. Of the three components of organisational commitment,⁵ affective commitment is the most frequently examined outcome of overeducation and is perhaps the most critical of the three-component model. Reported results generally suggest a negative relationship between overeducation and organisational commitment—more precisely, for affective commitment. Overeducated individuals have been reported as feeling less emotionally attached to their organisations (Borgen, Amundson, & Harder, 1988; Feldman & Turnley, 1995; Feldman, Leana, & Bolino, 2002; Maynard et al., 2006; Maynard & Parfyonova, 2013; Harari et al., 2017). For instance, in a sample of non-faculty employees and alumni from a college in the United States, Maynard et al. (2006) found perceived overqualification to significantly predict affective commitment after controlling for several demographic variables. W. Johnson et al. (2002) also reported a negative link between perceived mismatch (i.e., overeducation) and affective commitment, but no relation with continuance or normative commitment. Similarly, in their meta-analysis of perceived overqualification, Harari et al. (2017) found it was significantly associated with overall organisational commitment, affective commitment, and normative commitment, but not with continuance commitment, though the magnitudes of the reported relationships were relatively small. With a few exceptions, the relationship between overeducation and affective commitment is smaller in size and significance than that with

² These measures identify different individuals as being overeducated.

³ Although the basic effect (i.e., the sign and significance of the effect) between overeducation and job satisfaction does not seem to be generally influenced by the different methods of measurement, some studies, albeit very limited ones, have found the magnitude of such effects to differ across different measures (e.g., Verhaest & Omev, 2006a, 2006b).

⁴ For Green and Zhu (2010), a situation in which an individual is both overeducated and over-skilled is referred to as real overqualification; when an individual is overeducated but experiences full skill utilisation, it is referred to as formal overqualification.

⁵ Organisational commitment typically consists of three dimensions: affective commitment (one’s emotional attachment to the organisation); continuance commitment (the costs of leaving the organisation); and normative commitment (feeling obligated to remain with the organisation; Meyer & Allen, 1991).

job satisfaction. While overeducation is commonly hypothesised to negatively affect organisational commitment, empirical findings to support this direct relationship, especially across contexts, remain lacking.

Turnover intentions

Past research has attempted to examine the relationships between overeducation and several turnover or withdrawal intentions and behaviours. Results for these relationships have mostly displayed a pattern that is consistent with that reported for other job attitudes. With some exceptions, most relationships are significantly positive. In particular, compared with matched individuals, overeducated individuals are more likely to report higher intentions to leave their jobs (e.g., turnover intentions; Burris, 1983; Hersch, 1991; Tsang, Rumberger, & Levin, 1991; Maynard et al., 2006; McGuinness & Wooden, 2009; McKee-Ryan et al., 2009), actively search for another job (e.g., active job search behaviour; Feldman & Tumley, 1995; Wolbers, 2003; Wald, 2005; Congregado et al., 2016), or voluntarily leave their job for another (e.g., actual turnover behaviour; Alba-Ramirez, 1993; Sloane, Battu, & Seaman, 1999; Holtom et al., 2002; Pollmann-Schult & Büchel, 2004; Verhaest & Omeij, 2006a; Bender & Heywood, 2009; Erdogan & Bauer, 2009; Maynard & Parfyonova, 2013).

Despite some studies showing that overeducated individuals are more likely to have higher intentions to leave or higher actual turnover rates, some researchers (e.g., Erdogan et al., 2011; McKee-Ryan & Harvey, 2011) argue that the overeducation–turnover relationship is still far from clear, and that further research is needed to uncover the details of this relationship. Moreover, some evidence has shown that overeducation is not always positively related to turnover intentions or behaviours; some studies suggest either no relationship or a relationship in the opposite direction (i.e., a negative relationship). For example, Allen and van der Velden (2001) observed that overeducation was not significantly linked to one's intention to leave their job. In addition, Büchel (2002) reported that overeducated individuals worked for longer durations at their jobs. Overall, despite some contradictory findings, most research suggests a positive relationship between overeducation and turnover intentions (Maynard & Parfyonova, 2013).

Job performance

Following Feldman's (1996) propositions on the potential job outcomes of underemployment, researchers have always hypothesised a negative effect of overeducation on job performance. However, very little research has directly explored this relationship. Furthermore, the reported results are mixed across the multiple performance measures or ratings used. While some studies (e.g., Feldman, 1996; Bolino & Feldman, 2000) have suggested that there is a negative relationship between overeducation and job performance, others (e.g., King & Hautaluoma, 1987; Holtom et al., 2002; Fine, 2007; Fine & Nevo, 2008; Erdogan & Bauer, 2009) have observed either a positive relationship or no relationship. For example, Bolino and Feldman (2000) found perceived overeducation among expatriates to be significantly negatively related to self-reported in-role performance. Conversely, Fine (2007) found that training cadets, who reported being overeducated, were rated as higher performers by their supervisors and peers. Besides, in their study of call centre employees, Fine and Nevo (2008) observed a positive relationship between perceived overeducation and both supervisor-rated and self-rated performance, but no relationship with training performance, with the strength of the relationship varying across these dimensions. Similarly, Holtom et al. (2002) found that overeducation was positively related to supervisor ratings of in-role performance among retail workers, but not to extra-role performance. Consistent with these studies, Erdogan and Bauer (2009) reported a positive but insignificant association between perceived overeducation and objective job performance (actual sales figures) in a sample of retail workers in Turkey.

In general, empirical evidence on this relationship is relatively scarce and inconclusive, with no clear pattern of emerging findings establishing a link. This suggests that both the direct and indirect relationships between overeducation and job performance are likely to be much more complex, and perhaps ambiguous, than they have often been conceptualised (Feldman, 1996; McKee-Ryan & Harvey, 2011).⁶ Interestingly, a growing literature argues that overeducated individuals—when motivated, empowered, and provided with sufficient opportunities for learning and advancement—should be capable of performing their job tasks better and at higher levels than their less-educated co-workers (see Erdogan et al., 2011; Wu, Luksyte., & Parker, 2015; Luksyte & Spitzmueller, 2016; Zheng & Wang, 2017; Abozaid et al., 2019; Gizlier & Yildiz, 2019).

In sum, most studies have generally shown that overeducation is negatively linked to job satisfaction and organisational commitment, while positively linked to turnover intentions. Studies often yield mixed results with job performance. Notwithstanding the importance of the previous research, several limitations remain in the literature. First, most prior studies focus on the effects of perceived overqualification, which is often measured using attitude or opinion scales consisting of multiple items or sub-indicators (i.e., a Likert-type scale); some of which are not soundly indicative of the construct of overeducation as it is commonly defined and understood (Maynard et al., 2006).⁷ In addition, very little empirical research has examined the robustness of the results on these

⁶ The presumed indirect relationship is based on a secondary relationship between job attitudes (job satisfaction in particular) and job performance (see Tsang et al., 1991; Feldman, 1996; Fine & Nevo, 2008).

⁷ Perceived overqualification is typically defined as the extent to which an employee feels or perceives that they have more qualifications than their job requires (Burris, 1983; Maynard et al., 2006). However, in addition to the surplus education, some authors have included more dimensions or sub-indicators in the conceptualisation of perceived overqualification such as surplus experience, knowledge, skills, and abilities (Maynard et al., 2006), and the opportunities for growth and learning on the job (e.g., perceived no-grow; Khan & Morrow, 1991; G. Johnson & W. Johnson, 1996). These later dimensions do not seem to constitute or represent the construct of overeducation (Peiró et al., 2010).

effects across the different measures of overeducation. An enquiry into the potential influence of using different measures of overeducation when analysing its impact on job outcomes would provide an important contribution to the literature (Verhaest & Omeij, 2006a; Leuven & Oosterbeek, 2011; Wassermann et al., 2017; Cattani, Guidetti, & Pedrini, 2018).

Second, most research efforts focus on the overeducation–job satisfaction relationship. To a far lesser extent, overeducation has been linked with other job attitudes and outcomes (e.g., Maynard et al., 2006; Maynard & Parfyonova, 2013; Harari et al., 2017), though these relations have consistently been hypothesised to be significant (Feldman, 1996; Maynard et al., 2006). Thus, available evidence on these relationships remains inconclusive and are not well-developed. Third, very little research has analysed the impacts of overeducation in developing countries. Due to the relevant, factual peculiarities of the less developed or developing countries, overeducation might affect job outputs in a different way to what has been observed in developed countries. Therefore, exploring these correlates in a non-developed context is important (McGuinness, 2006).

Finally, when considering the impact of overeducation, several individual and job-related variables or attributes (e.g., age, contract of employment, work experience, and salary) that have consistently been found to be directly or indirectly related to overeducation, job attitudes, or both, should be controlled. These variables could affect or even change the relationship between overeducation and job outcomes. Most previous research does not control for these variables, which may have resulted in the reported effects in the literature being confounded by such potential variables. Given the shortcomings of the existing literature, this paper examines the impact of overeducation on job attitudes and outcomes among a sample of Saudi graduates in the labour market.

Methodology

Sample

The study sample consisted of 398 Saudi graduates holding paid employment in Saudi Arabia at the time of completing the survey. Most of the respondents were male (74.6%) and married (59.3%). The respondents had a mean age of 34.87 years, and almost 76% were younger than 40 years old. With respect to the highest education level, more than half of the respondents (51%) held a bachelor's degree; 20.6% held either a higher diploma or masters degree; 16.6% held a doctorate degree or equivalent; and the remaining respondents (11.8%) held a post-secondary diploma. Most had studied at local universities (69.1%), and the majority (72.4%) of those having studied overseas had graduated from the United States (43.1%) or the United Kingdom (29.3%). The respondents' fields of study varied, with nearly half (48%) having studied social sciences, humanities, and arts; 30.1% studying science, technology, engineering, or other related fields; 15.3% studying health and welfare; and 11.8% studying education. Slightly more than half of the respondents (53.3%) had been unemployed at least once before their current job, and had worked in the private sector (53.8%). The respondents worked in a wide variety of industries, with nearly half (47.5%) holding jobs in either education (25.4%), sales and trade (11.8%), or public administration (10.3%). They were primarily employed in a full-time (91.2%), permanent job (60.8%). Most had been in their current job for less than 5 years (56.5%), and had a monthly net salary of less than SR 10,000 (58.1%).

Measures

For this study, an online cross-sectional survey was constructed using an online survey service (SurveyMonkey®). The survey included questions regarding overeducation status, job outcomes, and socio-demographic and job-related covariates, which accounted for the control variables in the analysis. Where applicable, required permissions to use and reproduce the existing measures in the study were obtained. Because there were no validated versions of the survey questions and measures available in Arabic, a standard back-translation was carried out by two bilingual translators to produce the Arabic version. The survey was offered to respondents in both English and Arabic.⁸ Table 1 presents the means, standard deviations, Cronbach's alpha coefficients, and inter-correlations among the key variables of the study. Further details of the measures are provided below.

Overeducation

Previous studies have mainly used three methods to measure overeducation: job analysis (JA), realised match (RM), and self-assessments (SA; Hartog, 2000; McGuinness et al., 2018). In this study, overeducation was measured using two different SA measures: direct self-assessment (DSA) and indirect self-assessment (ISA).⁹ DSA asks respondents to assess their levels of education in relation to the educational requirements to 'do the job' based on the following question: '*In your own experience, what level of education do you feel is most appropriate to perform your current job?*'¹⁰ Respondents were given four answer choices: (1) 'A higher level of education than my own would be needed'; (2) 'My own level of education is necessary'; (3) 'A lower level of education than my own would be sufficient'; and (4) 'For this job, no particular education is needed'. Each respondent was classified into one of two categories: 0 = matched (adequately educated; selecting choice 1 or 2) and 1 = overeducated (selecting choice 3 or 4).

⁸ A native Arabic speaker translated the measures from English into Arabic, and a linguistics specialist translated the measures back into English. The back-translation was then compared with the original English version to ensure that the original meaning of the measurement items was retained.

⁹ For further discussions of these measures see, for example, Dolton and Vignoles (2000), McGuinness (2006), Leuven and Oosterbeek (2011), and Capsada-Munsech (2019).

¹⁰ Similar wordings were used in the literature (see Allen & van der Velden, 2001; Verhaest & Omeij, 2006a, Green & McIntosh, 2007; Barone & Ortiz, 2010; Verhaest, Sellami, & van der Velden, 2017; Castagnetti, Rosti, & Töpfer, 2018).

Table 1: Means, standard divisions, and intercorrelations among the key variables of the study

Measures	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Gender	—	—	—															
2. Age	34.47	8.889	.002	—														
3. Marital status	—	—	.104*	-.546**	—													
4. Education level	—	—	.113*	.467**	-.362**	—												
5. Overseas study	—	—	.085	.416**	-.288**	.633**	—											
6. Previous unemployment	—	—	-.044	-.361**	.294**	-.415**	-.311**	—										
7. Job status	—	—	.023	-.044	.122*	-.055	-.073	.095	—									
8. Job contract	—	—	-.019	-.327**	.320**	-.320**	-.292**	.350**	.241**	—								
9. Work experience	1.829	1.197	-.081	.672**	-.438**	.301**	.182**	-.387**	-.015	-.372**	—							
10. Salary	2.719	1.79	-.028	.613**	-.430**	.627**	.580**	-.522**	-.169**	-.513**	.503**	—						
11. Overeducation (DSA)	—	—	-.064	-.254**	.178**	-.223**	-.247**	.230**	.127*	.221**	-.199**	-.385**	—					
12. Overeducation (ISA)	—	—	-.101*	-.196**	.132*	-.087	-.221**	.138*	.073	.245**	-.182**	-.295**	.685**	—				
13. Job satisfaction	3.235	1.105	-.005	.344**	-.306**	.275**	.224**	-.308**	-.050	-.370**	.318**	.434**	-.379**	-.325**	(.852)			
14. Org. Commitment	3.036	1.143	-.025	.340**	-.330**	.262**	.226**	-.372**	-.010	-.343**	.330**	.405**	-.339**	-.349**	.714**	(.931)		
15. Turnover intentions	3.542	1.325	-.022	-.365**	.331**	-.318**	-.281**	.393**	.009	.414**	-.333**	-.471**	.356**	.320**	-.673**	-.675**	(.966)	
16. Job performance	4.281	.587	.101*	.057	.007	.061	.047	-.094	-.136**	-.043	-.018	.057	.003	.046	.114*	.066	-.013	(.718)

Note: *N* = 398. All correlation coefficients are rounded to three decimal places. Cronbach’s alpha coefficients (α) for multi-item measures are presented on the diagonal in parentheses. DSA, direct-self assessment, is coded as 0 = matched, 1 = overeducated; ISA, indirect-self assessment, is coded as 0 = matched, 1 = overeducated; gender is coded as 0 = male, 1 = female; marital status is coded as 0 = married, 1 = single; educational level is coded as 0 = none, 1 = graduate degree; overseas study is coded as 0 = no, 1 = yes; pervious unemployment is coded as 1 = no, 0 = yes; job status is coded as 0 = full-time, 1 = part-time; and job contract is coded as 0 = permanent job, 1 = temporary or contract job. Age is measured in years; work experience and salary are measured at the ordinal level (5 levels and 7 levels, respectively) and treated as contentious variables. Phi (ϕ) coefficient was used to calculate the correlations between nominal binary variables (e.g., dichotomous variables); point-biserial correlation was used to calculate the correlations between continuous and binary variables; and Pearson’s correlation was used to calculate the correlations between continuous variables.

p* < .05, *p* < .01.

ISA, on the other hand, is based on the respondents' self-reported educational requirements to 'get the job', and was derived from the following question: 'What is the minimal level of formal education required to get your current job?'¹¹ Respondents were asked to select one of eight education levels: (1) 'No specific educational requirements'; (2) 'Less than a secondary school degree'; (3) 'Secondary school degree or equivalent'; (4) 'Diploma'; (5) 'Bachelor's degree'; (6) 'Higher diploma'; (7) 'Masters degree'; and (8) 'Doctorate or equivalent'. By comparing the level of required education with the level of attained education, respondents were classified in one of two categories: 0 = matched and 1 = overeducation.

It should be noted that for both measures, the undereducated respondents (i.e., those whose level of education was reported as being higher than needed or required by their job) were grouped with matched respondents (i.e., those whose level of education was reported as being needed or required by their job). This choice was made based on the practical implications to simplify the analysis. Moreover, evidence has shown that the job outcomes of undereducated individuals are generally comparable to that of matched individuals (see Hartog, 2000; Verhaest & Omeij, 2010; Meroni & Vera-Toscano, 2017; Verhaest et al., 2017).

While the two indicators of both DSA and ISA yielded quite similar figures for the overeducated individuals (51% and 48.2%, respectively), they did not overlap perfectly. Of the total sample, 335 respondents (84.2%) were equally similar on both measures (either overeducated or matched), whereas 63 (15.8%) were different on the two measures. Specifically, 166 (41.7%) were consistently overeducated based on both measures, and 169 (42.5%) were matched using both indicators. Furthermore, 37 respondents (9.3%) were overeducated based on DSA but were matched under the definition of ISA, while 48 (6.5%) were overeducated based on ISA but were matched in terms of DSA.

Job satisfaction

Job satisfaction was assessed using a 3-item scale of overall job satisfaction developed by Cammann, Fichman, Jenkins, and Klesh (1983). The scale assesses one's overall satisfaction with their current job. A sample item is 'All in all, I am satisfied with my job'. Responses were recorded on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores indicating higher satisfaction with the job.

Organisational commitment

Organisational commitment was measured using a 6-item scale of affective commitment developed by Meyer, Allen, and Smith (1993). The scale measures the emotional attachment one feels towards their organisation. A sample item is 'I really feel as if this organisation's problems are my own'. Responses were recorded on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores indicating higher organisational commitment.

Turnover intentions

Turnover intentions were measured using a 3-item scale developed by Adams and Beehr (1998). The scale broadly assesses one's intention to quit their current job (withdrawal cognitions). A sample item is 'I often think of quitting this job and finding another'. Responses were collected on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores indicating higher intentions to quit the job.

Job performance

In-role performance was measured using a 7-item scale developed by Williams and Anderson (1991). Respondents were asked to indicate how often they engaged in activities and behaviours related to the prescribed duties and responsibilities required in their job. A sample item is 'Adequately complete your assigned duties'. Items were measured on a 5-point Likert-type scale with response options ranging from 1 (*almost never*) to 5 (*very frequently*), with higher scores indicating higher job performance.

Control variables

This study controlled for several socio-demographic and job-related variables that could potentially confound the relationships between overeducation indicators and job outcomes. Some of these variables include the standard set of control variables found in previous studies on overeducation outcomes (e.g., Feldman & Turnley, 1995; Alba-Ramírez & Blázquez, 2004; Maynard et al., 2006; Peiró et al., 2010; Maynard & Parfyonova, 2013), whereas others were chosen to serve as controls because they were related to either overeducation measures or job outcomes. These included age, marital status, education level, job status, job contract, work experience, and salary. Age was measured in years, and work experience and salary were measured at the ordinal level (5 levels and 7 levels, respectively) and treated in the regression analyses as contentious variables. All other nominal variables were recorded as dichotomous variables (i.e., 0 and 1) in the regression analyses. Gender was associated only with ISA and job performance ($\phi = -.1$, $p < .5$, $r_{pb} = .1$, $p < .05$, respectively) but not with any of the other main study variables, and was not included in the analyses to preserve statistical power (Maynard et al., 2006; Wassermann et al., 2017).

Data collection procedure

Saudi graduates from a large public university in Saudi Arabia were recruited to participate in the survey. The online survey was administered over a two-week period during August 2019. With prior permission from the relevant authorities at the university, a total

¹¹ Similar survey questions with slightly different wording were used by previous studies (see Green, McIntosh, & Vignoles, 2002; Linsley, 2005; Verhaest & Omeij, 2006a, 2010; Boll, Leppin, & Schömann, 2016; Montt, 2017).

of 1,000 graduates were randomly selected from the university's alumni e-mail address list and were sent an e-mail invitation by the university requesting the anonymous participation of Saudi graduates residing in Saudi Arabia and holding a paid job.¹² The invitation contained brief information about the study, the link to the survey, and the contact details of the author as the person sending the invitation and the one who would receive the replies. All respondents were required to provide their informed consent prior to taking the survey. Respondents were also sent a reminder e-mail one week after the initial invitation was sent. Of the potential respondents initially contacted, a total of 439 responded to the survey (response rate of 50.16%). Removing the incomplete and unusable data resulted in a final sample of 398 eligible respondents.

Results

Point-biserial correlation was first used to explore the relationships between the overeducation variables and the outcome variables in terms of both the strength and direction of the relationship.¹³ As shown in Table 1, when measuring overeducation in terms of DSA, overeducation correlated moderately and negatively with job satisfaction, $r_{pb}(396) = -.379, p < .001$; and organisational commitment, $r_{pb}(396) = -.339, p < .001$. DSA was also found to be moderately and positively associated with turnover intentions, $r_{pb}(396) = .356, p < .001$. However, there was no statistically significant correlation between DSA and job performance, $r_{pb}(396) = .003, p = .96$, with DSA explaining less than .001% of the variation in job performance. Similarly, ISA correlated moderately and negatively with job satisfaction, $r_{pb}(396) = -.325, p < .001$; and organisational commitment, $r_{pb}(396) = -.349, p < .001$; while moderately and positively with turnover intentions, $r_{pb}(396) = .32, p < .001$. Additionally, no statistically significant correlation was found between ISA and job performance, $r_{pb}(396) = .046, p = .36$, with ISA explaining only .2% of the variation in job performance. The magnitudes of the correlations were fairly similar across the two measures of overeducation; ISA was only slightly better correlated with job performance than DSA, whose correlation with job performance was closer to zero. More importantly, neither of the two measures was related to lower job performance, meaning that the relationship between each measure and job performance was positive, though not significant.¹⁴

Subsequently, a series of hierarchical multiple regressions were conducted to determine the separate impact of each of the overeducation indicators on the job outcomes after controlling for the possible effect of the various covariates. For each overeducation variable, four separate regression equations were run to assess the effect on each of the four outcome variables. In each regression equation, the nine control variables (age, marital status, education level, overseas study, previous unemployment, job status, job contract, work experience, and salary) were entered into each equation. In the second step of each equation, the overeducation indicator (DSA, ISA) was entered. Tables 2 and 3 present the multiple regression equations used to test for the effects of each overeducation variable.

Except for job performance, in each regression equation in Table 2, the full model, as a predictor of each of the four outcome variables (Model 2), was statistically significant, $p < .001$. After controlling for the potential covariates (Model 1), overeducation (DSA) explained a statistically significant amount of additional variance in job satisfaction, $\Delta R^2 = .047, \Delta F(1, 387) = 25.732, p < .001$; organisational commitment, $\Delta R^2 = .032, \Delta F(1, 383) = 17.309, p < .001$; and turnover intentions, $\Delta R^2 = .029, \Delta F(1, 387) = 16.959, p < .001$. The results revealed that DSA was not a significant predictor of job performance, when the variance explained by all other variables was controlled for, $\Delta R^2 = .001, \Delta F(1, 387) = .464, p = .496$. Furthermore, ISA made a statistically significant unique contribution to the prediction of job satisfaction ($\beta = -.239, p < .001$), organisational commitment ($\beta = -.197, p < .001$), and turnover intentions ($\beta = .187, p < .001$), when the effects of all other variables were statistically removed. Overeducation, as measured by DSA, was the strongest predictor of job satisfaction and organisational commitment. Only the job contract variable accounted for more variance in turnover intentions than DSA. However, several control variables accounted for more variance in job performance than DSA: job status, work experience, age, previous unemployment, and marital status, in that order.

Correspondingly, except for job performance, the full model to predict each of the outcome variables (Model 2) in each of the regression equations in Table 3 was statistically significant, $p < .001$. Here, overeducation (ISA) also accounted for a statistically significant amount of additional variance in job satisfaction, $\Delta R^2 = .045, \Delta F(1, 387) = 24.138, p < .001$; organisational commitment, $\Delta R^2 = .061, \Delta F(1, 383) = 33.973, p < .001$; and turnover intentions, $\Delta R^2 = .038, \Delta F(1, 387) = 22.498, p < .001$, even after controlling for the confounding variables. The results showed that ISA did not account for a statistically significant amount of additional variance in job performance that was above and beyond the variance explained by the control variables, $\Delta R^2 = .003, \Delta F(1, 387) = 1.157, p = .283$. Besides, after removing the variance explained by all other variables, ISA made a statistically significant unique contribution to the prediction of job satisfaction ($\beta = -.134, p < .05$), organisational commitment ($\beta = -.239, p < .001$), and turnover intentions ($\beta = .157, p < .01$). ISA was the best predictor of these three outcome variables; in no case did any control variable account for more variance in these variables than ISA. Consistent with the results for DSA, different control variables (job status, work experience, age, previous unemployment, and marital status) accounted for more variance in job performance than ISA.

¹² The sampling was applied by arrangement with the Alumni Unit at the Vice Deanship of Students Affairs for Alumni.

¹³ Preliminary analyses for point-biserial correlation were performed to ensure there were no violations of the assumptions of normality, linearity, and homoscedasticity.

¹⁴ Overeducated respondents reported similar job performance to their matched peers under DSA ($M = 4.28, SD = .61$ versus $M = 4.29, SD = .56$), while reporting higher job performance than their matched peers based on ISA ($M = 4.32, SD = .60$ versus $M = 4.25, SD = .57$).

Table 2: Hierarchical multiple regression analyses summary for overeducation (DSA) predicting job outcomes and attitudes

Steps and independent variables	Dependent variables											
	Job satisfaction			Org. Commitment			Turnover intentions			Job performance		
	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2
Step 1		.239***	.239***		.250***	.250***		.309***	.309***		.041	.041
Age	.039			.011			-.019			.165		
Marital status	-.102			-.143**			.109*			.070		
Education level	.006			.031			-.011			.016		
Overseas study	-.053			-.011			.005			-.003		
Previous unemployment	-.068			-.177**			.160**			-.104		
Job status	.076			.109*			-.132**			-.142**		
Job contract	-.152**			-.120*			.195***			-.004		
Work Experience	.016			.047			.009			-.148		
Salary	.192**			.131			-.185**			-.015		
<i>F</i>	13.568***			14.231***			19.240***			1.826		
Step 2		.287***	.047***		.283***	.032***		.338***	.029***		.042	.001
Overeducation (DSA)	-.239***			-.197***			.187***			.037		
<i>F</i>	15.563***			15.082***			19.724***			1.688		
ΔF	25.732***			17.309***			16.959***			0.464		

Note: $N = 398$. DSA, direct-self assessment, is coded as 0 = matched, 1 = overeducated; gender is coded as 0 = male, 1 = female; marital status is coded as 0 = married, 1 = single; educational level is coded as 0 = none, 1 = graduate degree; overseas study is coded as 0 = no, 1 = yes; previous unemployment is coded as 1 = no, 0 = yes; job status is coded as 0 = full-time, 1 = part-time; and job contract is coded as 0 = permanent job, 1 = temporary or contract job. Age is measured in years; work experience and salary are measured at the ordinal level (5 levels and 7 levels, respectively) and treated as contentious variables.

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

Table 3: Hierarchical multiple regression analyses summary for overeducation (ISA) predicting job outcomes and attitudes

Steps and independent variables	Dependent variables											
	Job satisfaction			Org. Commitment			Turnover intentions			Job performance		
	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2
Step 1		.239***	.239***		.250***	.250***		.309***	.309***		.041	.041
Age	.053			.027			-.032			.161		
Marital status	-.107			-.148**			.113*			.071		
Education level	.047			.029			-.032			.002		
Overseas study	-.066			-.035			.011			.003		
Previous unemployment	-.093			-.200***			.180***			-.100		
Job status	.065			.099*			-.123**			-.140**		
Job contract	-.145**			-.108			.187***			-.007		
Work Experience	.001			.031			.013			-.145		
Salary	.186*			.097			-.169*			-.006		
<i>F</i>	13.568***			14.231***			19.240***			1.826		
Step 2		.284***	.045***		.311***	.061***		.347***	.038***		.044	.003
Overeducation (ISA)	-.229***			-.268***			.211***			.058		
<i>F</i>	15.354***			17.305***			20.525***			1.760		
ΔF	24.138***			33.973***			22.498***			1.157		

Note: $N = 398$. ISA, indirect-self assessment, is coded as 0 = matched, 1 = overeducated; gender is coded as 0 = male, 1 = female; marital status is coded as 0 = married, 1 = single; educational level is coded as 0 = none, 1 = graduate degree; overseas study is coded as 0 = no, 1 = yes; previous unemployment is coded as 1 = no, 0 = yes; job status is coded as 0 = full-time, 1 = part-time; and job contract is coded as 0 = permanent job, 1 = temporary or contract job. Age is measured in years; work experience and salary are measured at the ordinal level (5 levels and 7 levels, respectively) and treated as continuous variables.

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

Despite the similarities between the two measures of overeducation in predicting the outcome variables, there are a few differences in terms of the magnitudes of their effects that might be worth mentioning. For example, the unique contribution of DSA to the prediction of job satisfaction was slightly stronger than the contribution of ISA, indicating that it made less of a contribution. Conversely, ISA made a stronger unique contribution to the prediction of organisational commitment, turnover intentions, and job performance than DSA.

Overall, with the exception of job performance, fairly consistent statistically significant results were obtained concerning the predictive relationships between each measure of overeducation and the outcome variables, regardless of how overeducation was measured. The regression results were congruent with the previously reported correlational results. This suggests that the more overeducated the Saudi individuals were (either based on the educational requirements to get or to do their job), the less likely they were to be both satisfied with their job and organisationally committed, and the more likely they were to turnover.

Discussion

This study examines the links between overeducation and a number of important job attitudes and outcomes among Saudis in the labour market. Overeducation, regardless of how it is measured, was found to be significantly negatively related to Saudi individuals' job satisfaction and organisational commitment, while significantly positively related to their turnover intentions, even after controlling for several potential confounders. These findings are, by and large, consistent across the two measures of overeducation, indicating that the observed negative effects of overeducation are not merely an artifact of the measures used (Feldman et al., 2002). The current study found no significant link between overeducation and self-reported job performance, although the relationship was positive for each of the two measures of overeducation. Compared to the matched individuals, then, the overeducated Saudis were somewhat less satisfied with their job, less organisationally committed, had higher intentions to turnover, but did not necessarily have lower or higher job performances.

The results are generally consistent with the previous studies on overeducation that report significant results for job satisfaction, organisational commitment, and turnover intentions. Despite the observed significance, both the correlation and regression results indicate that the observed relationships between overeducation measures and these job outcomes are not particularly strong. As demonstrated earlier, the correlations between each of the two overeducation measures and these three job outcomes were only moderately strong ($\pm.32 \leq r_{pb} \leq \pm.38$). Additionally, having controlled for the potential confounders, the amounts of additional unique variance in the job outcomes, as explained by each of the two overeducation variables, were small (.1% to 6%). However, the magnitudes of the reported results are very comparable to those reported in many previous studies (e.g., G. Johnson & W. Johnson, 2000; Maynard et al., 2006; Erdogan & Bauer, 2009; Wassermann et al., 2017).

Apart from job performance, the findings of this study are generally consistent with the P–J fit framework (Edwards, 1991), which predicts negative outcomes for those individuals who have surplus education relative to their job's demands. Although overeducation, as a case of a poor P–J fit, was expected to be inversely related to job performance, the results did not fit this pattern. Rather, both measures of overeducation were positively, albeit non-significantly, related to job performance. These results suggest that overeducated individuals have at least the same level of job performance as matched individuals, which contends with the assumption that poorer job performance is, in general, an outcome of overeducation. However, these findings do not significantly depart from the results obtained by existing studies which report inconclusively positive or insignificant effects across the different measures of job performance (e.g., Holtom et al., 2002; Fine & Nevo, 2008; Erdogan & Bauer, 2009). Despite this not being the hypothesised outcome, the results can be explained intuitively. As noted earlier, poor job performance has been assumed in the literature as a consequence of overeducation on the basis of its secondary relationship with job attitudes—more often with job satisfaction. Nevertheless, job performance in this study was weakly and mainly non-significantly correlated with job attitudes. Thus, the results provide further evidence against this hypothesised belief (see Fine & Nevo, 2008).

Parenthetically, more objectively operationalised overeducation, job performance, or both, might have produced different results that could substantiate the presumed relationship between the two. Unfortunately, such measures were not available for this study. Alternatively, the observed relationship may be due to the possibility that overeducated individuals were by definition (or at least by assumption) in possession of qualifications and skills exceeding the job's requirements, and thus were (or believed to be) capable of the same, if not higher, performance of their adequately educated (matched) peers, leading to the observed non-significant positive association. It may also be the case that the overeducated individuals might have been freer to react to their overeducation status in terms of having negative job attitudes than they were in terms of reducing their job performance. In other words, the negative consequences for reducing job performance or failing to execute assigned job duties may have been greater than that for having negative attitudes (see Bolino & Feldman, 2000). Given the limitations in the current literature, much remains to be learnt, and further research into the relationship between overeducation and job performance is needed.

Using two SA measures of overeducation, this study contributes to the existing literature by providing empirical evidence from Saudi Arabia and extending the research on overeducation impacts to an emerging developing market, in which overeducation might be relatively more widespread than developed countries (Erdogan & Bauer, 2009). The study also contributes by adding to the limited number of studies that have examined the relationships between different overeducation indicators and multiple job outcomes (e.g., Maynard et al., 2006).

Limitations and directions for future research

The conclusions reported in this study must be interpreted with an appropriate recognition of its potential limitations, which should be addressed in future studies. Data on all variables of the study were collected from the same self-report instrument at a single point in time. Therefore, the results were vulnerable to common method bias, which may have inflated or deflated the observed relationships between overeducation and job outcomes. While the magnitude and significance of the observed relationships, which were largely robust over the two measures and generally consistent with previous studies, might mitigate against this concern, caution should be exercised when interpreting the impacts of overeducation. Future studies are encouraged to reduce common method bias; for example, by collecting data on overeducation and its consequences at different points in time (e.g. by adopting a longitudinal design) or by using a set of alternative data methods or sources.

Furthermore, the two measures of overeducation are both based on SA and are, by definition, prone to subjectivity.¹⁵ It is possible that individuals' assessments of their overeducation status (e.g., the educational requirements required to do or to get the job) was affected by other factors about the job including preferences, expectations, or feelings, and thus resulted in potential measurement errors. Besides, the potential effect of social desirability is another source of bias in the current self-reported data. For example, an upwards bias may have occurred from individuals attempting to inflate their educational credentials by overstating their education level. Conversely, social desirability to upgrade one's own job status may have led some individuals to overestimate their job's educational requirements, leading to a downwards bias (Hartog, 2000; Capsada-Munsech, 2019). Likewise, the relatively high levels of job performance reported in the current study and perhaps the observed lack of association with overeducation indicators may, among others, be explained by the individuals' tendencies to overstate their performance. Although most variables in this study are subjective and perhaps best measured by self-report measures, future studies should attempt to assess overeducation and, where applicable, its outcomes, using different alternative objective and subjective measures to draw firmer conclusions about the impacts of overeducation as well as analyse the sensitivity of the results from the particular measures used (Verhaest & Omeij, 2010). Indeed, previous evidence has demonstrated that the use of different objective and subjective assessments of overeducation (JA, RM, SA) results in fairly different conclusions about overeducation impacts (e.g., Chevalier, 2003; Verhaest & Omeij, 2006a; Capsada-Munsech, 2019).

Finally, the sample of the study is comparable with that of previous self-report studies that collected primary empirical data at the individual level. Nevertheless, this study's sample is relatively heterogeneous and consisted of individuals working across a wide variety of jobs, organisations, and industries. Despite the attempt made to control for several socio-demographic variables, the findings may not be generalised to particular types of jobs, organisations, or industries. Although overeducation is expected to lead to negative attitudes and outcomes in any given context, the strength of the relationships may vary depending on the particular characteristics of a workplace (Maynard et al., 2006). More homogeneous or specific samples of individuals in the labour market may be preferable for future research when attempting to delineate the effects of overeducation.

Conclusions

Consistent with the P-J fit framework and previous research findings, this study reveals that overeducation is associated with several negative consequences. The results suggest that overeducation, as measured by either DSA or ISA, is related to lower levels of job satisfaction and organisational commitment and higher turnover intentions among Saudis in the labour market, even after controlling for several confounding variables. However, no relationship is found between overeducation and job performance. The results show that, despite some slight differences, the two SA measures of overeducation yield similar results. Future research using alternative measures of overeducation, particularly JA or perhaps SA with different wording of the survey questions, would be useful in providing further decisive evidence about the impacts of overeducation in the Saudi labour market. The negative consequences of overeducation reported in the current study warrant further investigation into the different forms of educational mismatch and their potentially harmful outcomes in the Saudi labour market.

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Disclosure statement

The author declares no conflict of interest.

Data availability statement

The data that support the findings of this study are available from the author upon reasonable request. The data are not publicly available due to ongoing analyses for further publications.

¹⁵ Although the two measures differ in terms of their focus and scope, both are based on the worker's self-reported assessment of the educational requirements of the job (see Capsada-Munsech, 2015).

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