



Understanding the role of social capital in adolescents' Big Five personality effects on school-to-work transitions



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ABSTRACT

The school-to-work transition constitutes a central developmental task for adolescents. The role of Big Five personality traits in this has received some scientific attention, but prior research has been inconsistent and paid little attention to mechanisms through which personality traits influence job-search outcomes. The current study proposed that the joint effects of Big Five personality traits and social capital (i.e., available resources through social relations) would shed more light on adolescents' job-search outcomes. Analyses on 685 Dutch vocational training graduates showed that extraversion and emotional stability were related to better job-search outcomes after graduation. Some relations between Big Five personality traits and job-search outcomes were explained by social capital, but no relations were dependent on social capital. Social capital had a direct relation with the number of job offers. Contrary to popular belief, this study shows that Big Five personality traits and social capital relate to job-search outcomes largely independently.

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One of late adolescents' central developmental tasks pertains to their entrance into the labor market. Previous research has identified several factors that are consistently predictive of a successful job-search process, such as people's self-efficacy and motivation (Kanfer, Wanberg, & Kantrowitz, 2001). Studies on the importance of Big Five personality traits in job-search outcomes, however, have found a mixture of positive (Kanfer et al., 2001; Turban, Stevens, & Lee, 2009), non-significant (van Hoya, van Hooft, & Lievens, 2009; Wanberg, Kanfer, & Banas, 2000), and negative relations (Gelissen & de Graaf, 2006; Judge, Higgins, Thoresen, & Barrick, 1999). One factor that may explain inconsistencies across studies (and differences between people) in the extent to which Big Five personality traits are predictive of job-search outcomes is social capital, which refers to available resources through social relations (Lin, 2001). After all, there are some indications that subjects in studies with less positive Big Five personality trait effects possessed and used less social capital (van Hoya et al., 2009; Wanberg et al., 2000). This might imply that, on the one hand, certain Big Five personality traits may be related to higher levels of social capital, which are known to relate to job-search outcomes (e.g., Aguilera, 2002; Lin, 1999). On the other hand, Big Five personality traits may explain the extent to which job-seekers benefit from social capital (e.g., Linnehan & Blau, 1998; Turban et al., 2009). In the current paper, we test these mediating and moderating mechanisms of social capital to better understand why and when Big Five personality traits influence job-search outcomes.

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To what extent do Big Five personality traits predict job-search outcomes?

The current study conceptualizes personality from the “Big Five” perspective. Although other conceptualizations of personality have proven relevant in the job-search process (e.g., proactive personality (Baay, Eccles, van Aken, van der Lippe, de Ridder, 2014; Brown, Cober, Kane, Levy, & Shalhoop, 2006); approach-avoidance personality (Zimmerman, Boswell, Shipp, Dunford, & Boudreau, 2012)), the Big Five is most widely used in this domain (e.g., Kanfer et al., 2001). Moreover, conceptualizing personality in terms of people’s extraversion, conscientiousness, agreeableness, openness to experience, and emotional stability has received convincing empirical evidence with regard to its robustness across theories (e.g., Goldberg, 1981), instruments (e.g., Costa & McCrae, 1988), and samples (Digman, 1990; Klimstra, Hale, Raaijmakers, Branje, & Meeus, 2010a; 2010b).

Empirical evidence for the role of Big Five personality traits in job-search outcomes is not unequivocal. Although a meta-analysis found (small) significant meta-analytic correlations (Kanfer et al., 2001), some of these Big Five – job-search outcome correlations were based on only one or two studies and they were not consistently replicated by subsequent research (e.g., Turban et al., 2009; van Hove et al., 2009). Nevertheless, prior studies have found a number of significant relations between Big Five personality traits and job-search outcome measures. We will compare the relations in our sample with the pattern of previously found Big Five personality trait effects with regard to three commonly used job-search outcome measures: number of job offers, employment status, and unemployment duration (see Table 1).

To what extent does social capital explain Big Five personality effects in job-search outcomes?

Both theory and empirical studies have pointed to the importance of social capital in job-search outcomes (e.g., Aguilera, 2002; Lin, 2001). According to social capital theory, social capital refers to resources that can be acquired through social relations (e.g., friends, family, and acquaintances) (Burt, 1998; Coleman, 1988; Flap & Völker, 2001; Portes, 1998). Some of these resources may be instrumental in the job-search process (Lin, 2001). For example, social relations may possess information about potential job-leads or about the culture of a relevant organization, which enables the job-seeker to apply more frequently and effectively (Coleman, 1988; Fernandez & Weinberg, 1997). Social relations can also be used to make an organization aware of suitable candidates by “putting in a good word”: when a job-seeker is introduced by a trustworthy and esteemed relation, this informs the organization about the individual’s social credentials (Smith, 2005). More generally, someone’s mere connectedness with certain social relations may provide a signal that employers use to draw inferences about the job-seeker (Castilla, Lan, & Rissing, 2013; Podolny, 2001). Also, having valuable social relations may reinforce an individual’s identity and work-related norms (Castilla et al., 2013; Lin, 2001). In line with social capital theory, numerous empirical studies have shown that job-search outcomes are positively related with job-seekers’ amount of available social capital (e.g., Aguilera, 2002; Lin, 1999; Sprengers, Tazelaar, & Flap, 1988).

Prior studies have suggested that Big Five personality traits are important in the job-search process through a variety of factors, ranging from meta-cognitive activities (Turban et al., 2009) and network size (Pollet, Roberts, & Dunbar, 2011) to communication frequency (Wu, Foo, & Turban, 2008). Although these factors may seem unrelated, they all point to the importance of social capital. As we will detail below, each mechanism relates to the availability and use of social relations more or less explicitly. For example, extraverts have been found to have more social capital (Swickert, Rosentreter, Hittner, & Mushrush, 2002), while conscientious individuals utilize their social capital more intensively in the job-search process (Wanberg et al., 2000) as they search for efficient job-search strategies through meta-cognitive activities (Turban et al., 2009). Based on the notions that certain Big Five personality traits cause some individuals to have more social capital to their disposal than others, and that social capital availability is predictive of job-search outcomes, we hypothesize that part of the effects of Big Five personality traits on job-search outcomes are due to social capital availability. We now specify this *mediation hypothesis* for the Big Five personality traits that have previously been suggested to relate to social capital (Table 1).

Highly *extraverted* people are generally more warm, sociable, assertive, and active (Costa & McCrae, 1992). Based on these characteristics, it is of no surprise that extraversion is related with the amount of available social capital (Brown, 1996; Kanfer & Tanaka, 1993; Pollet et al., 2011; Russell, Booth, Reed, & Laughlin, 1997; Swickert et al., 2002). Similarly, *emotionally stable* individuals – usually experiencing fewer negative emotions like anxiety, stress and negative affect (Costa & McCrae, 1992) – are likely to have more extensive networks because they are better capable of adapting to interpersonal differences (Klein,

Table 1

Hypothesized relations between Big Five personality traits, social capital, and job-search outcomes.

	Job search outcomes			Mediated by social capital	Moderated by social capital
	Number of job offers	Employment status	Unemployment duration		
1 Extraversion	+		+	+	+
2 Conscientiousness		+	+		+
3 Agreeableness	+		+		+
4 Emotional stability	+	+		+	+
5 Openness to experience	+		+	+	+
6 Social capital availability	+	+	+		

Lim, Saltz, & Mayer, 2004; Wu et al., 2008). Finally, individuals *open to experience* are characterized as curious, flexible, and receptive to new ideas (Costa & McCrae, 1992). Given their communication with a wider variety of people (Wu et al., 2008), they are likely to end up with more social capital. There is no research to show that conscientious individuals – who are generally more self-disciplined, hardworking, reliable, and achievement-oriented (Costa & McCrae, 1992) – or agreeable individuals – who are warm, cooperative, emphatic, trusting, and helpful (Costa & McCrae, 1992) – have more social capital. Therefore, we focus our mediation hypothesis on three Big Five personality traits and hypothesize that the effects of extraversion, emotional stability, and openness to experience on job-search outcomes are mediated by social capital availability (Table 1).

To what extent is the relation between social capital and job-search outcomes different depending on Big Five personality trait levels?

Early studies on the role of social capital in labor market outcomes only considered social capital availability (e.g., Sprengers et al., 1988). Partly in response to concerns with regard to causality of social capital effects, operationalizations of social capital have become more diverse and sophisticated (e.g., Mouw, 2003, 2006). In addition to availability, researchers increasingly often study the effects of social capital use, which is also predictive of job-search outcomes (Obukhova & Lan, 2013; van Hoye et al., 2009; Wanberg et al., 2000). There is little research, however, on predictors of (effective) social capital use. Studies on Big Five personality traits may help to understand for which individuals social capital availability is most beneficial. Based on the notions that certain Big Five personality traits cause some individuals to use their network more intensively or effectively, and that social capital use is related to job-search outcomes, we hypothesize that the relation between social capital availability and job-search outcomes is dependent on Big Five personality traits. We discuss this *moderation hypothesis* for each Big Five personality trait separately (Table 1).

There are several reasons to suspect that *extraversion* is related to the extent to which individuals benefit from social capital. First, extraversion has been associated with networking behavior (Forret & Dougherty, 2001; Tziner, Vered, & Ophir, 2004; van Hoye et al., 2009; Wanberg et al., 2000) and the use of social sources in general (Burger & Caldwell, 2000; Caldwell & Burger, 1998; Linnehan & Blau, 1998). Hence, extraverts seem to more intensively use their social network, which likely increases the pay-off of available social capital. Moreover, given that extraverts report higher levels of positive emotions (Burger & Caldwell, 2000; Turban et al., 2009) and relationship closeness (Wu et al., 2008), extraverts' social relations may be more likely to share information with them. This would make social capital use more effective for extraverts. Thus, we predict that the relation between social capital availability and job-search outcomes is stronger the more extraverted individuals are.

Previous studies indicate that *conscientious* individuals may also benefit more from their social capital. Because of conscientious individuals' achievement-orientation, they seek effective search methods such as via their social network (Caldwell & Burger, 1998; Turban et al., 2009; Tziner et al., 2004). Together with conscientious individuals feeling more comfortable using their social network (Wanberg et al., 2000) and their motivation to keep high-quality interpersonal relationships (Hough, 1992), they may be better able to effectively use their social capital in the job-search process. Hence, we predict the relation between social capital availability and job-search outcomes to be stronger the more conscientious individuals are.

Individuals who score high on *openness to experience* may benefit more from their social capital for two reasons. Given that they interact with a wider variety of people (Wu et al., 2008), they may possess more beneficial capital: more diversity in someone's social network is related to receiving more unique job information and better employment chances (Burt, 1998; Granovetter, 1995). Furthermore, Caldwell and Burger (1998) showed that people high on openness to experience are more likely to use social sources (e.g., talking to others) in the job-search process, which likely increases the effect of social capital. Thus, we predict the relation between social capital availability and job-search outcomes to be stronger the more open to experience individuals are.

Suggestions as to why *agreeable* individuals derive more benefits from their social capital point to two mechanisms. Wu et al. (2008) found that higher levels of agreeableness are related to higher communication frequency, suggesting that individuals high on agreeableness may be more likely to use their social relations. In addition, individuals high on agreeableness report more intimacy in their relationships (Wu et al., 2008), which might enable them to benefit more effectively from their social capital. Hence, we predict that the relation between social capital availability and job-search outcomes is stronger the more agreeable individuals are.

As *emotionally stable* individuals report qualitatively better interpersonal relationships (Wu et al., 2008), their social capital is likely to be more beneficial in the job-search process, compared to more neurotic individuals. Hence, we predict the relation between social capital availability and job-search outcomes to be stronger the more emotionally stable individuals are.

Current study

Previous studies have demonstrated the importance of Big Five personality traits and social capital in the job-search process, but their joint effects have not been considered before. This study examines to what extent, and how, Big Five personality traits and social capital jointly influence job-search outcomes. More specifically, the current study aims to understand why and when Big Five personality traits influence job-search outcomes by proposing that Big Five personality trait

effects on job-search outcomes are (partially) mediated by social capital and that social capital effects on job-search outcomes are moderated by Big Five personality traits. The proposed hypotheses are tested with a large-scale longitudinal sample of vocational training students who intend to enter the labor market upon graduation, answering the call by Kanfer et al. (2001) for more research on non-collegiate new workforce entrants. These relatively lower educated adolescents are more likely to face a difficult transition from school to work, as indicated by higher unemployment rates among lower educated as compared to higher educated workforce entrants (Bureau of Labor Statistics, 2012; Statistics Netherlands, 2012).

Methods

Participants and procedure

Data were collected as part of the larger longitudinal study “School2Work” on the school-to-work transition of vocational training students. In collaboration with a regional vocational training institute, a cohort of students is followed from their final year of education until three years later (see Baay, Buiers, & Dumhs (2014) for an extensive description of the project and data collection process). The current study uses the first wave (administered on average nine months before graduation; September–December, 2011) and the third wave (six months after graduation; December, 2012).

The first data wave was collected during career counseling lessons. Research assistants briefly introduced the purpose of the research (i.e., to get insight into the plans of vocational training graduates) and explained the procedure (i.e., students were asked to use personal log-in names and passwords to complete the online questionnaire behind computers, while assistants were present to answer questions). At the end of the survey, participants were asked to give their contact details, with which we could inform them if they won in the raffle of 12 vouchers of 25 euros. The third wave was collected through email and telephone. Participants who had provided their contact details at the first data wave, received an invitation to answer questions about their current status. If participants did not respond to this invitation, research assistants called up to four times to remind them of this invitation (and to verify whether the invitation had been received). In addition, participants received up to two reminders via email and one invitation per mail. In addition to 12 vouchers of 25 euros, an iPad was added to the raffle at the third data wave.

1766 Prospective graduates participated in the first wave. For all analyses, only the 685 students were included who intended to enter the labor market during their most recent participation in the study (i.e., this could be the first, second, or third data wave). This way, we excluded those students who intended to continue their education ($n = 846$), intended to be self-employed ($n = 36$), intended to do something else than entering the labor market ($n = 114$), and those who did not know what to do after graduation ($n = 67$). Other reasons to exclude participants were if they did not fill out the questionnaire completely ($n = 13$) or seriously (indicated by e.g., a series of 30 ‘neutral’ answers; $n = 31$). Of the selected 685 students, 383 participated in the third wave, yielding a response rate of 56%. 346 (90%) of those responding had graduated by the third wave. Two study variables were related to response in the third wave: students who participated in the third wave, as compared to students who did not participate, were more conscientious ($M = 5.01$, $SD = 1.04$ versus $M = 4.84$, $SD = .99$; $t(683) = 2.19$, $p = .029$, $d = .17$) and less likely to already have a job for after graduation at the first wave ($M = .25$ versus $M = .35$; $\chi^2(1) = 4.77$, $p = .029$, $r = .11$). No differences were found with regard to the other Big Five personality traits, social capital, and the number of job offers before graduation (all p 's $> .24$).

First wave measures

Table 2 provides an overview of the mean, standard deviation and bivariate correlations of the independent and dependent variables in the current study.

Table 2
Descriptive statistics and bivariate correlations of study variables.

	<i>N</i>	<i>M</i>	<i>SD</i>	2	3	4	5	6	7	8	9	10	11
1 Extraversion	685	4.62	1.16	-.02	.15***	.47***	.10*	.13**	.03	-.05	-.05	.14*	-.03
2 Conscientiousness	685	4.94	1.02		.30***	-.01	.20***	.00	.01	-.10*	-.01	-.02	-.01
3 Agreeableness	685	5.73	.66			-.03	.42***	.07†	.05	-.04	.03	-.06	-.02
4 Emotional stability	685	4.18	1.04				-.02	.08*	.10*	.11*	-.09	.11*	-.06
5 Openness to experience	685	4.90	.80					.14***	.07	.03	-.01	-.04	-.04
6 Social capital availability	695	6.74	2.78						.17***	.09†	.09	.05	-.16*
7 T1 Number of job offers	457	1.78	.73							.21***	.11	.08	-.21**
8 T1 Future employment status	410	.31	.46								.16†	.17*	-.08
9 T3 Number of job offers	326	1.77	.66									.28***	-.02
10 T3 Employment status	339	.79	.41										1
11 T3 Unemployment duration ^a	248	.27	3.72										

*** $p < .001$ ** $p < .01$ * $p < .05$ † $p < .10$.

^a The survival analysis on unemployment duration also includes the censored cases (i.e., those who had not found unemployment at the third wave), but the correlation table does not. Hence, the measure in this table captures the length of job-searching for only those who have found employment at the third wave.

Big Five personality traits

Personality traits were measured with the Quick Big Five (Vermulst, 2005), which is a shortened version of Goldberg's Big Five questionnaire (Gerris et al., 1998; Goldberg, 1992). The Quick Big Five is used in multiple countries (Klimstra, Crocetti, Hale, Fermani, & Meeus, 2011) and predicts a variety of concepts, including adolescents' depressive symptoms (Klimstra et al., 2011), popularity (van der Linden, Scholte, Cillessen, Nijenhuis, & Segers, 2010), and smoking (Harakeh, Scholte, de Vries, & Engels, 2006). All five personality traits were measured with six continuous items, on which participants indicated whether they agreed this was characteristic of them on a 7-point scale, ranging from 1 'completely disagree' to 7 'completely agree'. Sample items include 'talkative' (extraversion), 'systematic' (conscientiousness), 'pleasant' (agreeableness), 'nervous' (reverse coded - emotional stability), and 'versatile' (openness to experience). Cronbach's alphas indicate that internal consistency was satisfactory for all traits except for openness to experience, for which reliability was moderate (extraversion = .86, conscientiousness = .83, agreeableness = .80, emotional stability = .79, openness to experience = .67).

Social capital

Available resources that people can access through their social network is considered social capital. We measured social capital with the Position Generator, which maps an individual's social relations through the others' professions (Lin & Dumin, 1986). Respondents receive a list of professions and are asked to indicate whether they know someone with that profession (Lin, 1999). Respondents can indicate that they know this contact from their professional network ("via internship/work"), but also as family member, friend, or acquaintance. Compared to the most commonly used alternative (i.e., the Name Generator), the Position Generator is considered superior, because it is content-free (i.e., answers depend less on intimacy and geography) and, hence, it is better able to capture a variety of relations (i.e., not only strong relations) (Lin, Fu, & Hsung, 2001). Although the Position Generator may ignore the instrumentality of relations with non-occupied individuals, it is still considered the most useful instrument to assess general social capital, especially with regard to help in the job-search process (van der Gaag, Snijders, & Flap, 2008).

Previous research demonstrated the reliability of the Position Generator, with Cronbach's alphas around .80 (Angelusz & Tardos, 2008; van der Gaag et al., 2008). A comparison between the Position Generator and people's records of every interpersonal contact across a three-months-period showed that the Position Generator gives a representative view on people's social capital (Fu, 2008). In addition, the Position Generator seems to be fairly stable and independent of day-to-day experiences, as respondents' answers are consistent across time (Lin & Erickson, 2008). For twelve combinations of professions (e.g., lawyer, judge, and notary), respondents indicated whether, and through which context, they knew anyone with these professions. After six combinations of general professions, participants were asked which sector they studied in. Based on this sector, they received six sector-specific combinations of professions (e.g., those studying in Healthcare were asked whether they knew a nurse or medical receptionist, while those studying in Sports were asked whether they knew a gym teacher or sports teacher at a primary or secondary school). The continuous measure of social capital was constructed as the sum of the six general and six sector-specific combinations of professions ($\alpha = .72$).

Job-search outcomes

Job-search outcomes before graduation were operationalized as the number of job offers and future employment status. For number of job offers, participants were asked: 'How many times did you receive a job offer? Note: we mean for a job after this education'. Answer categories were 'Never', '1–2 times', '3–6 times', '7–10 times', and 'More than 10 times'. Because less than two per cent chose the latter two categories, these were merged with the third category, resulting in an ordinal scale with categories 'Never', '1–2 times', and 'More than 2 times'.

Future employment status was administered with the question 'Have you already found employment for after this training?'.

Third wave measures

Job-search outcomes

Job-search outcomes after graduation were operationalized as the number of job offers, employment status, and unemployment duration. The number of job offers after graduation was administered with the same question and answer categories as in the first wave; the scale was again recoded to three categories: 'Never', '1–2 times', and 'More than 2 times'.

Employment status was operationalized in accordance with the International Labor Organization definition of unemployment. Hence, students were considered unemployed if they searched for employment and did not work any number of hours. To administer this, we initially asked 'Which description fits best to your current situation?' with answer categories 'I work', 'I search for employment', 'I follow a fulltime education', 'I combine education and work in a dual training', and 'None of these descriptions fits me'. The first category was recoded into 'employed' (value '1' in analyses). For the second category, we inferred whether people worked in a side-job; if this was not the case, they were considered 'unemployed' (value '0' in analyses). If job-seekers had a (side-)job, they were considered employed (1). Respondents who indicated that none of the descriptions fit them, answered an open-ended question about their current status. Based on this answer and their answers with regard to job-searching and current number of working hours, it was assessed whether they were employed (1), unemployed (0), or not relevant to the analysis (missing). Those who indicated to follow (fulltime or part-time) education were excluded from the analyses.

Unemployment duration was calculated as the difference in months between the anticipated date of graduation at the first wave and the date respondents were hired for their job. For respondents who had not found employment by the time of the third wave, the duration was the time between anticipated graduation and the third data wave. Moreover, these cases were censored in the analyses.

Analyses

Ordinal regression analysis was performed for the ordinal dependent variable number of job offers. Binary logistic regression analysis was performed for the dichotomous dependent variable employment status. Cox regression survival analysis was performed for the dependent variable unemployment duration. To examine the mediation hypothesis, we used a bootstrapped mediation analysis through the Process macro (Preacher & Hayes, 2008). Bootstrapping takes random samples from the original data and calculates mediation effects for each sample. Mediation effects for each sample are aggregated and a 95% confidence interval is calculated to assess the size and significance of the mediation effects. A mediation effect is significant at the $p < .05$ level if the 95% confidence interval does not include 0. Because this procedure can only be used for binary and continuous variables, we chose to test the mediation hypothesis for the number of job offers and unemployment duration by examining whether significant relations between Big Five personality traits and the dependent variables reduced in strength and significance when social capital was controlled for (cf. Baron & Kenny, 1986).

Results

Preliminary analyses

First, the relations between the independent variables, Big Five personality traits and social capital, were considered. Based on the literature, the amount of available social capital was expected to be larger the more extraverted, open to experience and emotionally stable individuals were. The relation between conscientiousness and agreeableness on the one hand and social capital on the other hand, was examined for exploratory purposes. As can be seen in Table 2, our expectations were supported: extraversion, openness to experience and emotional stability were positively associated with social capital. Agreeableness was marginally significantly ($p = .066$) related and conscientiousness was not related to the availability of social capital.

To what extent do Big Five personality traits predict job-search outcomes?

The first research question dealt with the direct relation between Big Five personality traits and social capital on the one hand, and job-search outcomes on the other hand. For the number of job offers, employment status, and unemployment duration, it was expected that especially higher levels of extraversion, conscientiousness, openness to experience, emotional stability, and social capital would be associated with better outcomes. The relation between agreeableness and job-search outcomes was examined for exploratory purposes. Two indicators of job-search outcomes were measured before graduation: the number of job offers for a job after graduation, and whether or not someone had already found employment for after graduation. A higher number of job offers was significantly related to more social capital and higher levels of emotional stability (see Table 3). The other Big Five personality traits were not related to the number of job offers. The probability of having obtained employment before graduation was significantly related to lower levels of conscientiousness and higher levels of emotional stability. Social capital was marginally significantly, positively related with employment status before graduation, while the other Big Five personality traits were not related.

Three indicators of job-search outcomes were measured after graduation: the number of job offers, employment status, and unemployment duration. The number of job offers after graduation was marginally related to social capital and emotional

Table 3
Effects of Big Five personality traits and social capital on job-search behavior and job-search outcomes.

	T1 number of offers ^a		T1 future employment status ^b		T3 number of offers ^a		T3 employment status ^b		T3 unemployment duration ^c	
	<i>n</i> = 457	<i>p</i>	<i>n</i> = 410	<i>p</i>	<i>n</i> = 326	<i>p</i>	<i>n</i> = 339	<i>p</i>	<i>n</i> = 319	<i>p</i>
	<i>b</i> (se)		<i>b</i> (se)		<i>b</i> (se)		<i>b</i> (se)		<i>b</i> (se)	
Extraversion	.05 (.08)	.484	.06 (.09)	.499	-.08 (.09)	.387	.29 (.12)	.013	-.12 (.06)	.036
Conscientiousness	.01 (.09)	.949	-.21 (.11)	.042	-.01 (.11)	.951	-.04 (.13)	.774	.05 (.06)	.423
Agreeableness	.13 (.14)	.364	-.13 (.16)	.404	-.08 (.18)	.641	-.26 (.23)	.259	.08 (.10)	.450
Emotional stability	.18 (.09)	.042	.24 (.11)	.023	-.16 (.10)	.098	.27 (.13)	.040	-.13 (.06)	.038
Openness	.15 (.11)	.172	.08 (.14)	.541	-.02 (.14)	.861	-.12 (.17)	.477	.07 (.08)	.416
Social capital	.12 (.03)	.000	.07 (.04)	.068	.07 (.04)	.071	.05 (.05)	.345	-.04 (.02)	.132

Note: All Big Five personality traits and social capital were tested in separate models.

^a The ordinal variables number of job offers (T1 & T3) are analyzed with ordinal regression analysis.

^b The nominal variables employment status (T1 & T3) are analyzed with binary logistic regression analysis.

^c The variable unemployment duration is analyzed with Cox regression survival analysis.

stability; not to the other Big Five personality traits. The probability of having a job after graduation was higher for more extraverted and more emotionally stable graduates. Similarly, unemployment duration was shorter for more extraverted and more emotionally stable graduates.

In sum, the hypotheses that extraversion and emotional stability are related to better job-search outcomes were partly confirmed. The hypotheses that conscientiousness, openness to experience, and agreeableness are associated with better job-search outcomes were not supported. Social capital was only related to more job offers before graduation.

To what extent does social capital explain Big Five personality effects in job-search outcomes?

The second research question investigated whether the relations between Big Five personality traits and job-search outcomes were mediated by social capital. For job-search outcomes, it was expected that relations with extraversion, openness to experience and emotional stability would be (partly) explained by social capital. As bootstrap results cannot be calculated for ordinal or survival type variables (Preacher & Hayes, 2008), only (future) employment status is analyzed with the bootstrap method. In line with expectations, the relations between extraversion, emotional stability, and openness to experience on the one hand and future employment status on the other hand are mediated by social capital (see Table 4). This was not the case for employment status after graduation. Without formally testing for mediation in the role of personality traits on number of job offers, it is worth noting that only the relation between emotional stability and the number of job offers before graduation ($b = .18$, Wald = 4.12, $p = .042$) reduced after controlling for social capital ($b = .13$, Wald = 2.10, $p = .147$).

In sum, the hypothesis that social capital explains part of the relation between extraversion, openness to experience and emotional stability on the one hand and job-search outcomes on the other hand, received partial support. Social capital also explained the effect of agreeableness on future employment status, but no conscientiousness effects on job-search outcomes.

To what extent is the relation between social capital and job-search outcomes different depending on Big Five personality trait levels?

We thirdly examined whether the relation between social capital and job-search outcomes was moderated by Big Five personality traits. For job-search outcomes, it was expected that the relation with social capital would be stronger the higher the levels of extraversion, conscientiousness, openness to experience, emotional stability, and agreeableness. After testing 25 interaction terms (social capital * 5 personality traits for 5 outcome measures), two were significant. Social capital was related to a higher number of job offers before graduation ($b = .13$, Wald = 15.41, $p < .001$) and a higher number of job offers after graduation ($b = .10$, Wald = 5.17, $p = .023$), but to a significantly lesser extent the more conscientious students were ($b = -.08$, Wald = 6.47, $p = .011$ before graduation; $b = -.10$, Wald = 4.89, $p = .027$ after graduation). All other relations between social capital and job-search outcomes were not moderated by Big Five personality traits.

In sum, based on only two significant effects out of 25 tests, the hypothesis that the relation between social capital and job-search outcomes would be different depending on Big Five personality traits remains largely unsupported.

Discussion

The current study attempted to shed light on the effects of Big Five personality traits and social capital in the job-search process of adolescents. Social capital, which constitutes the resources that people can access through their social relations, was expected to explain why and when Big Five personality traits relate to job-search outcomes. This was examined in a large-scale longitudinal sample of vocational training graduates, who tend to be underrepresented in scientific research despite their relatively poorer chances in the labor market (Bureau of Labor Statistics, 2012; Kanfer et al., 2001). As expected, we found some support for the notion that social capital may explain relations between Big Five personality traits and job-search outcomes. However, no evidence was found for the idea that the effects of social capital on job-search outcomes were dependent on someone's Big Five personality trait levels. Altogether, the current study suggests that extraversion, emotional stability and social capital have additive effects in the job-search process of adolescent vocational training graduates.

It was expected that social capital could explain why Big Five personality traits were predictive of job-search outcomes. Indeed, the relations between extraversion, emotional stability and openness to experience on the one hand and employment status on the other hand were explained by higher levels of social capital. This aligns with prior studies that found evidence for larger and more diverse social networks among job-seekers high on extraversion, emotional stability, and openness to experience (e.g., Pollet et al., 2011; Wu et al., 2008). Social capital did not explain relations between Big Five personality traits and other job-search outcomes. Although this may be in part due to the impossibility to calculate bootstrap results for the

Table 4

Lower and upper boundaries of bias corrected 95% confidence intervals for bootstrap results of mediating effect social capital in the relation between Big Five personality traits and job-search behavior and (future) employment status.

	T1 future employment status	T3 employment status
Extraversion	.00 to .07	-.02 to .05
Conscientiousness	-.01 to .04	-.04 to .01
Agreeableness	.00 to .14	-.02 to .07
Emotional stability	.00 to .06	-.02 to .06
Openness	.00 to .10	-.03 to .12

indirect effects of social capital on the ordinal and survival type variables (Preacher & Hayes, 2008), there was no indication that social capital could explain why Big Five personality traits predict these job-search outcomes. In sum, we find evidence that the social capital of extraverted and emotionally stable job-seekers is one reason as to why they are more successful in the job-search process.

It was further hypothesized that Big Five personality traits would help to discriminate between students who use their social capital more and less successfully. More precisely, it was expected that the effect of social capital on job-search outcomes would be stronger among students with higher levels of extraversion, conscientiousness, openness to experience, emotional stability, and agreeableness. However, across all outcome variables in the study, little evidence was found for a stronger effect of social capital dependent on someone's Big Five personality traits. Given that social capital showed a direct relation with the number of received job offers before graduation, it seems that extraversion, emotional stability and social capital have additive effects on job-search outcomes.

The current study confirms that the effects of Big Five personality traits in the job-search process are not straightforward (Gelissen & de Graaf, 2006; Kanfer et al., 2001; van Hoya et al., 2009). Although employment status and unemployment duration after graduation were related to extraversion and emotional stability, the number of job offers was not associated with Big Five personality traits. The non-significant relations with number of job offers are similar to the findings by van Hoya et al. (2009), but do not align with findings from Caldwell and Burger (1998). This appears to confirm the suggestion by Kanfer et al. (2001) that characteristics of the sample (e.g., new entrants vs. job losers vs. job to job seekers) may be important to consider in understanding the direct and indirect relations between personality traits and the job-search process. After all, it may be that certain traits are only rewarded and beneficial in a later part of the career (Gensowski, Heckman, & Savelyev, 2011). Moreover, the educational level (in comparison to other, higher educated samples as well as within the vocational training system of our sample) may influence the extent to which Big Five personality traits affect job-search outcomes (ROA, 2013). Without differentiating between these groups, which is a limitation of our study, we show that in our sample of adolescent labor market entrants with a full-time ("MBO-BOL") level 2, level 3, or level 4 vocational training, especially extraversion and emotional stability seemed important for employment chances after graduation.

There are a number of points that need to be taken into account when considering the findings in the current study. First, the current study is based on self-report data. As a result, it could be that the strength of relations between variables was overestimated due to common method variance. However, the outcome variables were relatively objective, which makes shared method variance less likely to occur (Trzeniewski et al., 2006). Second, somewhat less than half of the respondents in the first wave did not participate in the third wave. Moreover, non-response was related to employment status before graduation, which makes the current study results more difficult to generalize. Although non-response is relatively high, the current study compares favorably to other studies on school-to-work transitions, especially among relatively lower educated graduates. Finally, while social capital has usually been measured with 10–30 item versions of the Position Generator (van der Gaag & Webber, 2008), our twelve-item measure in this study is on the lower end of the range. However, the current findings with regard to social capital align with previous research (Aguilera, 2002; Flap & Völker, 2001; Lin, 1999), suggesting that the suboptimal measurement of social capital did not severely influence the results.

Besides improving upon the limitations mentioned above, future research is recommended to consider three other aspects. Firstly, even though most studies on social capital have considered the availability of social capital (e.g., Aguilera, 2002; Lin, 1999; Sprengers et al., 1988), some resources through social relations are only beneficial when these social relations are activated. For example, relevant information possessed by a job-seeker's social relation only becomes valuable when the job-seeker discusses job-searching with this social relation. Hence, the direct effect of social capital as well as the interactive effects with Big Five personality traits could be studied more closely when the use rather than availability of social capital is measured. Secondly, we have only considered the role of Big Five personality traits, while other conceptualizations of personality may also be relevant to the job-search process. For example, job-seekers with a more proactive personality are more likely to build and use their social capital (Baay et al., 2014; Thompson, 2005). Future research could assess whether proactive job-seekers also benefit more from their social capital. Thirdly, we considered the linear relations between Big Five personality traits. A recent study has found that higher levels of extraversion are not necessarily beneficial: moderately extraverted salespeople have better sales revenues than lowly or highly extraverted salespeople (Grant, 2013). Future research could examine whether there are curvilinear relations between Big Five personality traits and job-search outcomes, or whether the effect of social capital on job-search outcomes is moderated by a quadratic rather than linear effect of Big Five personality traits.

Theoretical and practical implications

Previous research has frequently referred to the presumable role of social relations in the effects of Big Five personality traits in the job-search process. With the current sample and measurements, there is only little evidence for joint effects of Big Five personality traits and the availability of social relations. Although future research should replicate this with different samples and operationalizations for social capital (e.g., social capital use instead of social capital availability), the current findings seem to suggest that different explanations for the role of Big Five personality traits in the job-search process may receive more empirical support.

Similar to previous research, the study confirmed that certain Big Five personality traits and social capital are beneficial in the job-search process. Hence, the availability and use of social relations are important to consider in, for example, career

counseling. Perhaps counterintuitively, our non-significant interaction effects suggest equal benefits of social capital for people with different Big Five personality trait levels. Given that we did not find differences in effective use of social capital based on people's Big Five personality traits, we would not necessarily recommend to devote special attention to effective use of social relations among people with certain Big Five personality traits (e.g., introverted or neurotic students).

Conclusion

The current study is the first to study the interrelation of Big Five personality traits and social capital in the job-search process. Contrary to popular belief, it seems that effects of Big Five personality traits and social relations in the job-search process are present, but largely independent.

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