

How Graduates Make the School–To–Work Transition:  
A Person-in-Context Approach

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ISBN: 978-94-6299-023-4

Foto's: Maan Limburg

Illustraties: delicatether

Druk: Ridderprint BV

Printing of this dissertation was financially supported by UtrechtVC, the Valorisation Centre of Utrecht.

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How Graduates Make the School–To–Work Transition:  
A Person-in-Context Approach

Hoe Mbo-Studenten de Transitie Naar Werk Maken:  
Een Persoon-in-Context Benadering

(met een samenvatting in het Nederlands)

Proefschrift

ter verkrijging van de graad van doctor aan de Universiteit Utrecht op gezag van de  
rector magnificus, prof. dr. G. J. van der Zwaan, ingevolge het besluit van het college  
voor promoties

in het openbaar te verdedigen  
op vrijdag 6 maart 2015 des middags te 2.30 uur

door

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geboren op 26 oktober 1987 te De Bilt

**Promotoren:** Prof. dr. M. A. G. van Aken  
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Prof. dr. ir. T. van der Lippe

Dit proefschrift werd mede mogelijk gemaakt met financiële steun via een onderzoek subsidie van Instituut GAK (#2013-203) en een interventie ontwikkeling- en onderzoek subsidie van ROC Midden Nederland.

# Table of contents

Chapter 1	<i>General introduction</i>	page 9
Chapter 2	<i>Personality moderates the link of social identity with work motivation and job searching</i>	page 23
Chapter 3	<i>Self-control trumps work motivation in predicting job searching</i>	page 39
Chapter 4	<i>Understanding the role of social capital in adolescents' Big Five personality effects on school-to-work transitions</i>	page 55
Chapter 5	<i>The "(in)visible hand" of social capital: Accessible versus mobilized social capital in the school-to-work transition</i>	page 75
Chapter 6	<i>Harder, better, faster stronger: Understanding the "pro" in proactive behaviors during school-to-work transitions</i>	page 95

Chapter 7	<i>It wasn't sheer luck after all: Opportunity and preparation predict chance events in the job search process</i>	page 123
Chapter 8	<i>Aiming to increase proactive behavior in prospective graduates: Five lessons learned from an ineffective training program</i>	page 147
Chapter 9	<i>General summary and discussion</i>	page 169
Appendix	<i>School2Work data collection</i>	page 187
	<i>References</i>	page 203
	<i>Summary in Dutch (Samenvatting)</i>	page 231
	<i>Acknowledgements (Dankwoord)</i>	page 243
	<i>Publications and manuscripts in submission</i>	page 251
	<i>Curriculum Vitae</i>	page 255





# 1

General introduction

Meet Maressa, Steven, and Beatrice. All three are close to graduation from their vocational education and training (VET) program and want to find a job in the labor market. They may strive for different things (e.g., finding a job quickly, finding a permanent job, a well-paid job, a job fitting with their education), but some form of post-graduation employment will be a first indication of their school-to-work transition success. So, who will have the best chance of making a successful transition? Beatrice is very self-disciplined, Steven is an extraverted and friendly person, and Maressa is particularly strongly motivated. Individual characteristics, like personality and self-regulation, can provide important insight into predictors of transition success. However, some traits may be useful in one situation, while useless in another. For example, self-discipline may be a helpful characteristic for being persistent as a job seeker, but may not help in performing well during a job interview. Thus, studying individual characteristics in isolation from their social context does not seem sufficient.

An alternative approach to understand transition success focuses on contextual influences. Some contextual factors may apply to all job seekers, such as the generally higher difficulty of obtaining employment during an economic crisis. Others may be more individual-specific. For example, Beatrice might feel connected to an ethnic group that experiences job-related racial discrimination, while Steven's parents will continue to financially take care of him after graduation, and Maressa is provided with access to social relations in powerful positions through her internship. This illustrates that social contexts provide individuals with different opportunities to transition successfully. Yet, research approaches that consider such contextual factors do typically not account for individual differences in the experience of, and coping with, such social network effects. This way, it is not recognized that, for example, Beatrice is resilient against obstacles in her social context, while Maressa is especially talented in capitalizing on opportunities that are present in her social context.

Acknowledging the importance of both individual and contextual factors, the current dissertation takes an integrative, person-in-context approach to better understand how graduates make successful school-to-work transitions. In particular, the research question in the current dissertation reads:

*To what extent can personality, self-regulation, and social networks of VET graduates explain differences in their job search behavior and school-to-work transition success?*

### **The importance of successful school-to-work transitions**

The school-to-work transition is not only an individual challenge, but growingly a societal challenge as well. Youth unemployment rates have risen above 50% in parts of the U.S. and Europe (Eurostat, 2012; U.S. Bureau of Labor Statistics, 2012). In periods of economic recession, the job search period can be twice as long compared to economically better times (ILO, 2011). This is not only important for the economy but also for individual job seekers, as longer unemployment spells are known to relate

to decreasing job search motivation (Aaronson, Mazumder, & Schechter, 2010), less valuable job networks (Wanberg, Kanfer, & Banas, 2000), mental and psychological health problems (McKee-Ryan, Song, Wanberg, & Kinicki, 2005; Paul & Moser, 2009; Wanberg, 2012), psychological barriers to work (McQuaid & Lindsay, 2002; Wanberg et al., 2002), and deterioration of human capital that has been acquired in education (Möller, 1990). As obtaining employment may become increasingly difficult after longer periods of unemployment (e.g., Steijn, Need, & van Gesthuizen, 2006), school-to-work transition success may be important to achieve sustainable labor market participation.

Societies benefit from successful school-to-work transitions in a number of ways (Morisson, 2002). First, there is a potential burden on the social security system in case benefits have to be paid to unemployed youth, while no income taxes are levied (Stenberg & Westerlund, 2008; Wanberg, Hough, & Song, 2002). In addition, unemployed individuals experience lower levels of well-being and higher levels of depression (McKee-Ryan et al., 2005; Paul & Moser, 2009; Wanberg, 2012), which potentially increases the risk of social exclusion as well as the costs of (mental) health care. Finally, society's investment in education is underutilized if prolonged transitions result in human capital depreciation (Coles & Masters, 2000).

Given that both individuals and society at large benefit from smooth transitions, employment of youth is an important topic for the political agenda. For example in the Netherlands, where most of the studies in the current dissertation were performed, the Taskforce Youth Unemployment (2003-2007) and the ambassador for Youth Unemployment (2013-2015) have worked on creating additional jobs for youth and identifying obstacles in the process of matching job seekers and employers. These solutions have focused on closer collaboration between schools, municipalities, and potential employers. In addition to this collaboration between relevant partners, the Action Plan for Youth of the Organisation for Economic Co-operation and Development (OECD) points to the importance of creating “better outcomes for youth in the longer run by equipping them with relevant skills and removing barriers to their employment” (OECD, 2013, p. 2). Effective equipment of labor market entrants will only be possible if the relevant skills and barriers in the labor market are known. The current dissertation contributes to such a better understanding of relevant skills and barriers that influence successful school-to-work transitions.

### **Research context: Vocational education and training (VET)**

Within the group of adolescent and young adult job seekers, certain groups are more at risk for a vulnerable labor market position (i.e., temporary contracts, low-paid jobs, unemployment). One important marker for employment differences is the level of education (Kanfer, Wanberg, & Kantrowitz, 2001; ROA, 2014). To illustrate, 22.3% of lower educated, 14.8% of middle educated, and 10.6% of higher educated graduates were unemployed in the Netherlands (Statistics Netherlands, 2014). Because lower and

middle educated youth form the largest group of graduates as well as the most vulnerable (in terms of unemployment), policy makers have devoted special attention to this group (e.g., Ambassador for Youth Unemployment, 2013). While there is a considerable body of internationally comparative research on school-to-work transitions, these have mainly focused on samples of university graduates (Kanfer et al., 2001; Ng, Eby, Sorensen, & Feldman, 2005). Consequently, less is known about predictors of a successful transition among non-collegiate (lower and middle educated) graduates. The current dissertation focuses on VET graduates to shed light on this relatively large and vulnerable, yet understudied group.

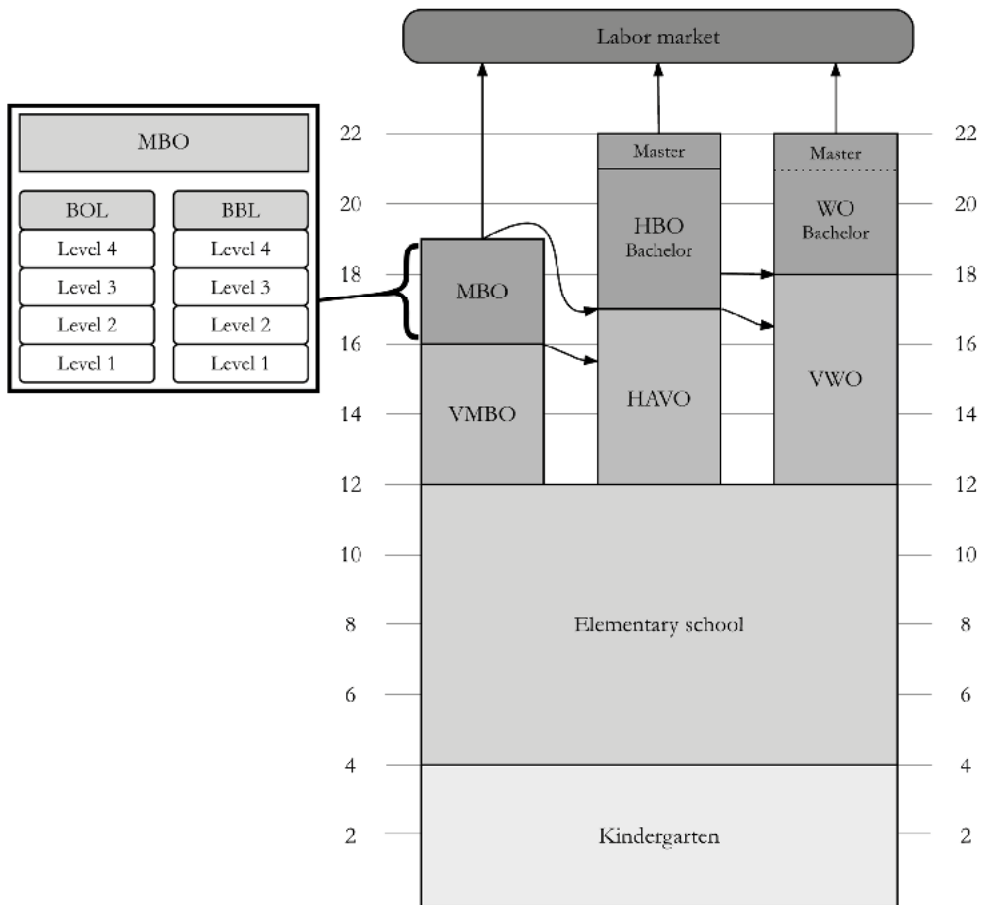


Figure 1.1 The educational system of the Netherlands

Figure 1.1 shows the educational system of the Netherlands. Most individuals in the Netherlands follow the educational track from elementary school, via pre-vocational education (“VMBO”), to a VET program (“MBO”) (Dutch Ministry of Education, Culture, and Science, 2012). Approximately 51% of all students who left the

educational system after graduating from post-secondary education in 2012 did so with a VET degree (Dutch Ministry of Education, Culture, and Science, 2012). In the labor force, approximately 43% holds a VET degree (Statistics Netherlands, 2013). In sum, VET is the largest educational track in the Netherlands and, consequently, the most frequent preparation for labor market entrance.

The left part of Figure 1.1 shows that VET in the Netherlands consists of two trajectories and four different levels. The school-based trajectory includes 20% to 60% practical training (“BeroepsOpleidende Leerweg; BOL”; 68%). The work-based trajectory includes one day per week classroom learning, while practical training takes up more than 60% of the time (“BeroepsBegeleidende Leerweg; BBL”; 32%). Programs are offered at four levels: the assistant level (level 1; 5%), basic vocational level (level 2; 25%), full professional level (level 3; 27%), and specialist level (level 4; 43%) (Statistics Netherlands, 2014).

In the current dissertation, we focus on transitions of BOL graduates in levels two, three, and four. That means that we have excluded graduates who continue their education in another educational track, those who participated in BBL, and those who participated in the assistant level. These groups experience incomparable transitions to the group of BOL students. In particular, the transition into the labor market is postponed for those who continue their education, which applies to approximately half of the VET students (Statistics Netherlands, 2010). For BBL graduates, the school-to-work transition is a more gradual process as students have already obtained a position in the labor market during their education. This is also indicated by lower unemployment rates of this group (12%), compared to BOL graduates (22%) (ROA, 2014). Assistant level students constitute a different type of students, who are officially not qualified for labor market participation (Statistics Netherlands, 2011) and who have different capacities, motivation, and school-to-work transitions (Baay & Schippers, 2014; Baay & van Pinxteren, 2014). The current dissertation examines the school-to-work transition of VET students who have followed BOL level two, three, or four, which constitutes 66% of all VET students (Statistics Netherlands, 2014),

### **School2Work: Interdisciplinary data collection project**

Most chapters in the current dissertation are based on data from the School2Work project. The general aim of this project is to identify factors that explain individual differences in the school-to-work transition and early career of VET students. To this end, the School2Work project combines insights from the disciplinary perspectives of psychology, sociology, economics, and public administration & organization science. As described in the Appendix, the project includes three sub-projects that focus on different aspects of the transition: an integrative perspective on the behavior of employers and job seekers during the early career (e.g., Buers, 2014), a job seeker resource perspective that includes both material and immaterial resources (e.g., Dumhs,

2014), and an integrative perspective on the role of personal and contextual factors in the job search process (current).

The hypothesized individual and contextual processes in early career success can be studied especially well in a sample of VET students, because it is a relatively large, vulnerable, and diverse (with regard to ethnic and socio-economic background) group. Hence, the students in the School2Work project are expected to differ in the contextual opportunities and obstacles they were exposed to (e.g., through family and neighborhoods). Moreover, these VET students follow a relatively practical educational track that includes multiple internships. Therefore, they have had multiple chances to develop their skills and mobilize their social relations across their education. In sum, differences in both individual and contextual factors seem salient in this group.

The main data collection within the School2Work project is a longitudinal study that follows more than 2,000 VET students from their final year before graduation until three years later. Five waves of data were collected, two of which were collected before and three after graduation. The appendix describes in more detail the background, data collection procedure and realization of this project. Besides the interdisciplinary and longitudinal design of this data collection among an understudied population, it is worthwhile mentioning that this unique dataset is representative of VET students in the Netherlands. Also, the project attained considerably higher response rates (43% in the third wave) compared to other research projects among VET graduates (between 15% and 25%; ROA, 2014).

### **Contributions of the current dissertation**

The general aim of the current dissertation is to better understand how people make successful school-to-work transitions. A person-in-context approach is used, which considers individual and contextual characteristics in tandem. This way, the current dissertation sheds light on the extent to which making successful transitions is dependent on (1) individual characteristics, (2) contextual characteristics, and (3) the interaction between individual characteristics and contextual characteristics.

#### **Individual characteristics**

The strongest predictor of employment chances is an individual's job search behavior (e.g., Kanfer, Wanberg, & Kantrowitz, 2001; van Hooft, Born, Taxis, van der Flier, & Blonk, 2004; van Hooft, Born, Taxis, & van der Flier, 2005; Wanberg, Kanfer, & Rotundo, 1999; Wanberg, Hough, & Song, 2002; Wanberg, Glomb, Song, & Sorenson, 2005; Wanberg, Zhu, & van Hooft, 2010). Job searching is mostly described as a self-regulated process (Boswell, Zimmerman, & Swider, 2011; Kanfer et al., 2001). Prior studies have therefore mainly used individual characteristics to predict this behavior. For example, research taking a psychological perspective has shown that motivation and Big Five personality traits (e.g., extraversion, emotional stability) are predictive of the intensity and success of job searching (Kanfer et al., 2001). This work

contributed to a better understanding of the relative importance of individual characteristics in the job search process (Boswell et al., 2011; Kanfer et al., 2001; Saks, 2005).

The current dissertation addresses several gaps of knowledge in research on individual characteristics. First, even though conceptualizations of job searching focus on its self-regulatory component, empirical studies have rarely measured the self-regulatory component explicitly (cf. Brown, Cober, Kane, Levy, & Shalhoop, 2006; Hu & Gan, 2011). We consider two forms of self-regulation (i.e., self-control and proactive coping) and consider their role in the job search process. The unique predictive value of self-regulatory skills as well as their relative importance compared to related constructs (e.g., motivation, conscientiousness) is examined. The second contribution of the current dissertation is that we study individual characteristics in their social context. As Boswell et al. (2011) pointed out, the context of job searching plays an important role in highlighting job search antecedents, processes, and outcomes. Depending on the type of employment that is sought for (i.e., labor market entry job, job-to-job, job after unemployment), certain factors may be important for some job seekers, while irrelevant for others (see also Boswell, Roehling, & Boudreau, 2006). In a similar vein, we argue that certain individual characteristics of job seekers may be important in one context, while irrelevant in another. However, little is known about mechanisms and conditions that explain when certain individual characteristics are especially important. For example, is being agreeable important for transition success through having a larger social network, making a better impression during a job interview, or by being more likely to receive help even without asking? And are self-regulation skills important for transition success because they represent the ability to act upon motivation or to deal better with contextual factors, like opportunities (e.g., networking events) and obstacles (e.g., racial discrimination)? As detailed below, studying the interaction between individual and contextual characteristics is expected to help understand the role of individual characteristics in light of their social context.

### **Contextual characteristics**

Regulation of the job search process does not happen in a social vacuum; contextual factors also play a role. As sociological work has shown, employment chances are related to resources that people can access through their social relations; their social capital (Lin, 2001; Mouw, 2006). There may also be potentially negative contextual factors that influence the school-to-work transition, such as racial discrimination (e.g., Kalter & Kogan, 2006).

The current dissertation also contributes to research on contextual characteristics. First, although social capital theory postulates that several resources may be important in job searching, previous empirical work has rarely examined distinct aspects of social capital (cf. McDonald, 2011a). The current dissertation attempts to disentangle some of these previously suggested mechanisms (e.g., Lin, 2006). For example, it is considered whether transitions are affected by the social environment that encourages

or discourages labor market participation, by social relations who may put in a good word without the job seeker's request, or by unexpected job leads that shape career paths. A second contribution to the contextual approach is that we consider if individuals differ in the extent to which they experience and capitalize on socio-structural factors. Sociologists have traditionally been interested in social inequality and mobility of employment chances (Blau & Duncan, 1967; Erickson & Goldthorpe, 1992). The potential for such mobility is different if school-to-work transition success is predicted by having connections in the "old boys" network (e.g., McDonald, 2011a), compared to if success is predicted by actively creating benefits from the social network obtained through one's internship. Personality and self-regulation theories may help to shed light on who benefits most from contextual factors, thereby shedding light on the potential for individual attainment. For example, if extraversion helps to reap benefits from their social relations, or if proactivity helps to cope effectively with potential obstacles (e.g., racial discrimination), this has implications for the potential of mobility. Hence, studying the interaction between individual and contextual characteristics helps to shed light on individual differences in the influence of contextual opportunities and obstacles.

### **Interaction between individual and contextual characteristics**

A person-in-context helps to shed light on conditions and mechanisms for individual characteristics to predict transition success, while it simultaneously helps to explain individual differences in the experience of contextual influences. Previous work has suggested that individual and contextual factors can interact such that individuals shape, process, or stimulate the environment (Caspi & Roberts, 2001; Lerner, 1987). These so-called person-environment transactions can be readily applied to the school-to-work transition. The first type of transaction applies if job seekers actively shape their environment in such a way that it benefits (or hampers) their transition success. For example, extraverted job seekers may be more likely to activate and extend their social network in their job search. The second form is that job seekers may perceive and react to their social environment differently. For example, open job seekers may be more likely to perceive and capitalize on unexpected events. The third applies if social contexts react differently to individuals. This more passive form occurs, for example, if agreeable job seekers are more liked and therefore likely to receive a job offer. Several of these person-environment transactions are tested in the current dissertation and will be summarized in the concluding chapter.



## Overview of studies

The empirical chapters presented below are summarized in Table 1.1, which includes the research questions and dataset(s) per chapter. Chapters 2 and 3 focus on work motivation and job search behavior, Chapters 4 and 5 focus on job search success, and Chapter 6 examines the entire job search process (including job search behavior and -success). Chapter 7 considers a specific aspect of job searching: unexpected events in the job search process. Chapter 8 describes the effectiveness of an intervention program that aimed to improve proactive self-regulatory skills, which are potentially helpful in the job search process. The empirical chapters were written as independent manuscripts, which has resulted in some overlap with regard to the theoretical background and data description between chapters.

In **Chapter 2**, the motivation to make successful school-to-work transitions is conceived as a product of the social context and people's sensitivity to that context. Although work motivation is critical for involvement and success in the job search process (Kanfer et al., 2001), little is known about its determinants among labor market entrants. In social identity (Tajfel, 1978) and social capital theories (Coleman, 1988; Lin, 2001), it is expected that people are influenced by their social contexts. Specifically, norms of social relations can predict people's own preferences, motivation, and behavior (e.g., Oyserman, Fryberg, & Yoder, 2007). During school-to-work transitions, people may similarly be more motivated and likely to search for employment if their social context finds work more important. As personality theories predict differences in the extent to which people are sensitive to socio-contextual influence, it is predicted that so-called overcontrollers are more likely to act in accordance with social norms compared to resilient and undercontrollers. Hence, this chapter uses the social context as potential shaper of motivation to make successful transitions, while acknowledging individual differences in this socio-contextual influence.

In **Chapter 3**, after having shed some light on the origins of work motivation, we consider whether job seekers need work motivation to use self-regulatory capacities in making successful school-to-work transitions. Self-control, frequently considered equivalent to self-regulation, may be important as high self-controllers are better able to alter or override dominant response tendencies in view of a long-term goal (Baumeister, Vohs, & Tice, 2007). Job searching fits the typical description of a self-control dilemma, as people need to make a trade-off between immediately gratifying actions (e.g., spending time with friends) and actions that have a higher pay-off in the long run (i.e., spending time searching for vacancies that eventually may lead to a job). However, despite its importance for a wide variety of life behaviors and outcomes (de Ridder, Lensvelt-Mulders, Finkenauer, Stok, & Baumeister, 2012), the role of self-control in the job search process has not been examined before. Hence, we test whether self-control is related to job searching. Given that the use of self-control in making successful transitions may be dependent on the motivation to obtain

employment, we additionally examine whether work motivation plays a role in the relation between self-control and job searching.

While the role of self-control may be best understood in interaction with motivational processes, personality factors may be best understood in interaction with contextual factors. In **Chapter 4**, the role of job seekers' social network in predicting employment chances is studied in relation to Big Five personality traits. The social environment can provide instrumental or emotional support that fosters the job search process, which sociologists describe as social capital (Lin, 2001). Popular belief, as well as research on personality, holds that certain (e.g., extraverted, agreeable) people may be better able to reap the benefits from social relations. In an attempt to address the paucity of studies testing mechanisms that explain the relation between Big Five personality traits and employment chances (Kanfer et al., 2001), we test whether job seekers with certain Big Five personality traits indeed make more successful transitions because they have more social capital and/or because they regulate their social capital more effectively.

In **Chapter 5**, extending the previous chapter on who benefits from social networks, it is addressed whether the social network needs to be mobilized before it plays a role in the job search process. Possibly, larger social networks relate to successful school-to-work transitions without the job seeker actively making the transition successful. Research that considers social network effects uses the term social capital to refer to resources that can be obtained through the social network. Although two decades of research have shown that such social capital is positively related to employment chances (e.g., Castilla, Lan, & Rissing, 2013a), the field has been criticized for not unravelling working mechanisms that explain why social capital matters (e.g., Dika & Singh, 2002; Kadushin, 2004). One unanswered question is whether job seekers can only benefit from social capital if they regulate the benefits or also without intentional use (e.g., through spontaneously receiving information, social capital functioning as referee or social credential). This so-called invisible hand may exist, but its relative importance compared to self-regulated use of social capital has not been examined before. In addition, a distinction between general and sector-specific social capital is made to examine whether (self-regulated or passive use of) social capital is especially beneficial if resources are specific to one's sector.

In **Chapter 6**, building on insight into different ways of how social capital can be beneficial, it is addressed whether job seekers' proactivity predicts who draws on their social environment more effectively. On the one hand, potentially beneficial events are considered (e.g., networking events, job applications), which may be made successful by a proactive preparation. That is, definitions of proactivity suggest that proactive individuals act in anticipation of future events (Aspinwall & Taylor, 1997), which may increase its pay-off. On the other hand, a potentially negative aspect in the job search process (e.g., racial discrimination) is considered to study whether proactivity also helps to reduce potential negative effects of obstacles. This way, it is examined whether proactive job seekers act stronger toward their social environment. It is also examined

whether proactive individuals start working toward goals faster. A final aim of this chapter is to replicate previous research in finding that proactive job seekers work harder toward their goals and, as a consequence, make more successful school-to-work transitions.

In **Chapter 7**, after showing how individuals can effectively regulate anticipated obstacles and opportunities, we consider opportunities that job seekers did not expect; so-called chance events. Chance events are occasions in which people experience something, as they say, by chance. However, it may be that these thought-to-be-random chance events are not mere chance. That is, opportunities to experience chance events may not be evenly distributed among people and some people may be more prepared to act upon these events. Specifically, job seekers with more social capital may be more likely to receive information they had not anticipated, and people who have prepared better for their job search may be more likely to capitalize on chance events. Also, job seekers who score higher on the personality trait openness to experience may be more open to noticing and benefitting from these events. This chapter not only includes correlational data that consider self-report experiences of chance events; in addition, job applicants were exposed to chance events during a job interview process in a controlled research design. The perception and selection of these chance events is linked to applicants' self-reported Big Five personality and job interview preparation.

In **Chapter 8**, given that proactive coping skills may be beneficial for dealing effectively with obstacles, opportunities, and serendipitous events, we present the effectiveness of an intervention program that aimed to improve the proactive coping and subsequent job search related behavior and outcomes among adolescents shortly before their school-to-work transition. In a cluster randomized controlled trial design, we compare students in classes that have received the training ( $n = 156$ ) with students in the control group ( $n = 161$ ). Four waves of data were collected, starting one week before the training, followed by questionnaires one week, one month, and eight months after the end of the training. We report the development and effectiveness of the training program and we formulate conditions for effective content and implementation of the training program in the context of VET graduates.

In **Chapter 9**, results from the empirical chapters are summarized and discussed in a person-in-context framework. Also, scientific contributions and practical implications for individuals (i.e., job seekers) and their social contexts (e.g., schools, career counselors, friends, and family) are discussed.

Table 1.1 Overview of research questions and datasets per empirical chapter

#	Research questions	Datasets
2	(a) Do perceived ethnic group work norms predict individual work motivation and job searching? (b) Is (a) dependent on personality prototypes?	School2Work (see Appendix)
3	(a) Does self-control predict job searching? (b) Is (a) dependent on work motivation?	School2Work (see Appendix)
4	(a) Do Big Five personality traits predict employment chances? (b) Is (a) explained by social capital? (c) Is (a) dependent on social capital?	School2Work (see Appendix)
5	(a) Does social capital predict employment chances? (b) Do both mobilized and unmobilized social capital predict employment chances? (c) Do both general and sector-specific social capital predict employment chances?	School2Work (see Appendix)
6	(a) Does proactivity relate to job searching and employment chances? (b) Does proactivity predict differential impact of anticipated discrimination on job searching and experienced discrimination? (c) Does proactivity predict differential impact of network building and job applying on employment chances?	From Dream to Goal From Dream to Goal MADICS (pilot training) (training program) (US sample)
7	(a) Do Big Five personality traits, social capital, and job search preparation predict past experience of chance events? (b) Do Big Five personality traits and job interview preparation predict perception and selection of chance events in a controlled job interview setting?	School2Work Veni Vidi Accepta (see Appendix) (job interview data)
8	(a) Does a training program increase general proactive behavior, future goal-oriented behavior, and future goal-oriented achievement?	From Dream to Goal (training program)





# 2

## Personality moderates the links of social identity with work motivation and job searching

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Work motivation is critical for successful school-to-work transitions, but little is known about its determinants among labor market entrants. Applying a social identity framework, we examined whether work motivation and job searching are socio-contextually determined. We expected that some job seekers are more sensitive to contextual influence, depending on their personality. Mediation analyses on 591 Dutch vocational education and training students indicate that the perception of more positive work norms in someone's social context was related to higher levels of intrinsic motivation, which in turn predicted higher preparatory job search behavior and job search intentions. Multi-group analysis shows that perceived work norms more strongly predict work motivation among overcontrollers compared to resilient and undercontrollers. In conclusion, work motivation and job searching appear contextually determined: especially among those sensitive to contextual influence, people seem to work when they believe that is what people like them do.

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Motivation and success go together well. Focusing on the domain of work, abundant research has shown that motivated employees are more involved and perform better in their job (e.g., Barrick, Stewart, & Piotrowski, 2002; van Knippenberg & Schie, 2000), while motivated labor market entrants are more involved and successful in their job search process (see Kanfer, Wanberg, & Kantrowitz, 2001, for a meta-analysis). Despite the importance of work motivation, its determinants have solely been studied among employees. Shedding light on determinants of work motivation among labor market entrants may be especially relevant given their comparatively precarious labor market situation (Statistics Netherlands, 2014; U.S. Department of Labor, Bureau of Labor Statistics, 2014). Building on the social identity framework that has been used among employees, we examine whether labor market entrants' work motivation is also socio-contextually determined. Drawing on personality research, this socio-contextual influence on the job search process may be especially strong for people who are sensitive to social contexts. Therefore, we study the extent to which perceived group norms in someone's social context are relevant to individual work motivation and job search behavior, and whether these relations differ between personality types (i.e., resilients, overcontrollers, undercontrollers).

A dominant perspective on the determinants of work motivation among employees is to examine intra-individual psychological processes while accounting for socio-contextual factors (Haslam, 2004; Latham & Pinder, 2005). One theory that highlights the contextual aspect of motivation is social identity theory, which contends that people act in accordance with norms of relevant social groups (Tajfel, 1978; Tajfel & Turner, 1979). Social identity theory was supported in studies observing a relation between employees' identification with their work organization and higher levels of loyalty (Tyler, 1999), job involvement (van Knippenberg & Schie, 2000) and conformity to work norms (Obschonka, Goethner, Silbereisen, & Cantner, 2012).

The social identity framework may also be relevant to the study of labor market entrants. Even though labor market entrants do not yet identify with organizational groups (e.g., department X, organization Y), identification with social groups (e.g., ethnic group X, social class Y) may also affect work norms and motivation. In the current study, we consider work norm differences from an ethnic group's point of view, because ethnic identity is salient in the period of labor market entrance (French, Seidman, Allen, & Aber, 2006). Moreover, work norms may differ between ethnic groups as a result of integrated stereotypes that generally favor the majority group with regard to positive behaviors (Allport, 1954; Oyserman, Fryberg, & Yoder, 2007). Finally, ethnic norm differences are potentially relevant to address ethnic minorities' difficulties in their school-to-work transition (U.S. Department of Labor, Bureau of Labor Statistics, 2014). Hence, ethnic group's work norms may be a relevant contextual determinant of work motivation and job search behavior among labor market entrants.

Social identity theory predicts that perceived norms in relevant social contexts, such as the ethnic group, influence individual beliefs and behavior (Tajfel, 1978; Tajfel & Turner, 1979). The perception of belonging to a certain ethnic group affects how



people define themselves and how they behave, as they are motivated to exert effort in line with the norms of relevant social groups (van Knippenberg, 2000). For example, if an ethnic group is perceived to have a more positive work norm, individuals identifying with that group are expected to be more motivated and active in their job searching. Hence, we predict a positive relation between perceived ethnic work norms on the one hand and work motivation and job searching on the other hand.

We also predict that the motivation to work explains the relation between group norms and job searching. To examine the mediating role of work motivation, we use the most commonly used distinction in motivation research (Ryan & Deci, 2000): We differentiate between intrinsic motivation (e.g., it is inherently interesting or fun) and extrinsic motivation (e.g., it leads to money or peer acceptance). As groups and perceived norms are internalized in the self-concept, it is likely that intrinsic work motivation increases with more favorable group norms. On the other hand, perceived group norms prescribe what ought to be, which is an external reason for performing behavior, so also extrinsic motivation might increase (cf. Haslam, 2004).

In sum, we hypothesize that the positive relation between perceived ethnic group's work norms and job searching is mediated by higher (intrinsic and extrinsic) work motivation.

### **Contextual sensitivity: personality prototypes**

Individuals may differ greatly in their sensitivity to contextual influences. While some are compliant when they encounter contextual influences like peer pressure, others remain more autonomous in their decision-making (Steca, Alessandri, Vecchio, & Caprara, 2007; Yu, Branje, Keijsers, Koot, & Meeus, 2013). Previous studies have used personality as an indicator for differential sensitivity, because it is known to reflect differences in responsiveness to the environment (Denissen & Penke, 2008). One oft-used personality typology, which differentiates between overcontrollers, undercontrollers, and resilients, originates in the personality theory of ego-control and ego-resiliency by Block and Block (1980). Ego-control refers to the tendency to inhibit rather than express emotional and motivational impulses, while ego-resiliency concerns the ability to respond flexibly rather than rigidly to changing demands (Block & Block, 1980). Resilients are characterized with a high level of ego-resiliency and a medium level of ego-control. Overcontrollers and undercontrollers have similarly low levels of ego-resiliency, but differ in their ego-control (with overcontrollers having high and undercontrollers having low levels) (Asendorpf & van Aken, 1999).

Studies that use the personality typology to examine individual differences in contextual sensitivity consistently find resilients to be different from the other types. Some studies have distinguished between resilients and non-resilients (i.e., combining overcontrollers and undercontrollers into one group) and they find that resilients are less strongly influenced by their environment (O'Conner & Dvorak, 2001; Nieuwenhuis, Hooimeijer, van Ham, & Meeus, 2013). Possible underlying mechanisms are resilients' ability to cope flexibly with their environment (Hart, Burock,

London, Atkins, & Bonilla-Santiago, 2005) and to remain autonomous in their decision-making (Allen, Porter, & McFarland, 2006). Studies that additionally differentiate between overcontrollers and undercontrollers suggest that both groups may be sensitive to different aspects of their context (Dubas, Gerris, Janssens, & Vermulst, 2002; van Aken & Dubas, 2004). When focusing on contextual effects like group norms, especially overcontrollers are sensitive to their environment. For example, overcontrollers report lower self-efficacy in resisting peers' pressure to act in line with the group (Steca et al., 2007), which is corroborated by the finding that especially delinquency of overcontrollers is influenced by the delinquency of their friends (Yu et al., 2013). Overcontrollers' vulnerability to contextual norms could be attributed to their relatively low levels of decisiveness and independence (Caspi & Silva, 1995; Hart, Hofmann, Edelstein, & Keller, 1997). Because the current study focuses on group norms as contextual effect, we predict that overcontrollers will be especially sensitive to these norms.

Specifically, we hypothesize that the relation between ethnic group's work norms and work motivation, as well as the mediating role of work motivation in the relation between work norms and job search behavior, is stronger among overcontrollers than among resilient and undercontrollers.

## Materials and methods

### Sample and procedures

Data were collected as part of the larger longitudinal study "School2Work" on the school-to-work transition of vocational education and training (VET) students in the Netherlands. A cohort of students is followed from their final year of education until three years later (see the Appendix for an extensive description of the project and data collection process). The current study uses the first wave of data, during which students were in their final year of VET.

1766 prospective vocational graduates participated in the first wave. For the present study, 750 students who intended to work upon graduation were eligible. Hence, we excluded those who intended to continue their education ( $n = 974$ )<sup>1</sup>, intended to do something else after graduation (e.g., go travelling;  $n = 28$ ), did not know what to do after graduation ( $n = 9$ ) or who did not indicate their plan ( $n = 5$ ). Participants were excluded if they planned not to graduate by the end of the academic year ( $n = 62$ ), if the questionnaire was not filled out completely ( $n = 10$ ) or seriously (e.g., answering a series of thirty personality items with "neutral") ( $n = 42$ ). Given the study purposes, participants were also excluded if they identified with multiple ethnic groups ( $n = 33$ ) or with no ethnic group at all ( $n = 12$ ). These exclusions resulted in a

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<sup>1</sup> The current sample's continuation rate of 55% is representative for the continuation rate among vocational education students in the Netherlands (Statistics Netherlands, 2014).

final sample of 591 VET graduates who expected to complete their education within six months and whose plan was to work afterwards.<sup>2</sup>

The mean age of the resulting sample was 21.49 years ( $SD = 4.61$ ); 56% of the respondents were female; 32% was a first or second generation immigrant, having at least one parent who was born abroad. The four largest ethnic minority groups in the sample had their roots in Morocco (9.5%), Turkey (5.8%), Suriname (2.4%), and the Netherlands Antilles (1.4%).

Questionnaires were filled out in class under supervision of the students' career counselor and a research assistant. In line with school regulations, research assistants made an appointment with classes through career counselors, introduced the project in class and asked students to participate. Participation was voluntary. Students who filled out their e-mail address participated in a raffle of 12 vouchers of 25 Euros.

## Measures

Questionnaires were collected in Dutch. For existing scales that had not been used in previous Dutch studies, one researcher translated the English items into Dutch, after which two other researchers provided feedback on the translation. For both newly translated and previously used scales, the educational level of the vocational students in the current study was taken into account. Hence, long sentences and difficult terminology was avoided as much as possible. If the researchers agreed that the items represented the original items and were comprehensible for the sample, items were tested in a pilot study. While filling out the pilot questionnaire, VET students were encouraged to provide feedback on the comprehensibility of the questions. If necessary, adaptations were made before the items were used in the current project.

### *Personality prototypes*

We based the personality prototypes on the Big Five, which we assessed with a shortened version of Goldberg's Big Five questionnaire (Gerris et al., 1998; Goldberg, 1992). All five personality traits were measured with six items, on which participants indicated whether they agreed this was characteristic of them on a 7-point scale from 1 'completely disagree' to 7 'completely agree'. Cronbach's alphas indicate that internal consistency was satisfactory (extraversion = 0.84, conscientiousness = 0.82, agreeableness = 0.78, emotional stability = 0.78, openness to experience = 0.69). As a standard procedure when deriving personality types (e.g., Dubas et al., 2002), we z-

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<sup>2</sup> The results are robust to the exclusion rules. Compared to the analyses reported below, analyses that include participants who identify with multiple ethnic groups ( $n = 33$ ) and analyses that include participants who plan to graduate by the following academic year ( $n = 62$ ) give similar results with regard to the direct, indirect and moderated relations (results available upon request).

standardized the personality trait scores and excluded (four) scores that were more than 3.5 standard deviations from the mean.<sup>3</sup>

Latent Class Analysis (LCA) was performed to examine the number of prototypes that could be identified in our data. To decide on the number of classes, we considered the interpretability of the classes as well as the best model fit indices for LCA: Bayesian Information Criterion (BIC) and Bootstrapped Likelihood Ratio Test (BLRT) (Nylund, Asparouhov, & Muthén, 2007). Lower BIC values indicate that the model provides a better representation of the data, while BLRT allows statistically testing whether a model with  $k + 1$  classes is superior to the more parsimonious model with  $k$  classes. Simulations showed that LRTs should be interpreted cautiously when class sizes are small (i.e., 5% of the data) as these LRTs may be too likely to reject the more parsimonious model (Nylund et al., 2007). A comparison of the BIC values for LCAs with two ( $BIC = 9445.28$ ), three ( $BIC = 7917.13$ ), and four ( $BIC = 9201.62$ ) classes favored the model with three classes. The BLRT also shows that the model with three classes provides a better fit than the two-class model ( $\Delta\chi^2(6) = 86.73, p < .001$ ). The model with four classes provides a better fit than the three-class model ( $\Delta\chi^2(6) = 130.96, p < .001$ ), but this may be less trustworthy due to two small class sizes ( $n = 14, 2.4\%$  and  $n = 33, 5.6\%$ ). Based on the interpretability as well as the fit indices of the three-class solution, we used the class probabilities to assign respondents to one of three prototypes.

The personality trait characteristics of the three personality prototypes align well with previous studies. Figure 2.1 shows that the 252 resilientists in our sample had high levels on all five personality traits. The 195 undercontrollers were lower on all these traits, while the 144 overcontrollers were only lower (than both resilientists and undercontrollers) on extraversion and emotional stability. This pattern is highly similar to other studies, although our overcontrollers seem more open.

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<sup>3</sup> Keeping the outliers in the analyses results in an extra class of two cases. The pattern for the remaining classes is very similar to the results without the outliers as reported below (results available upon request).

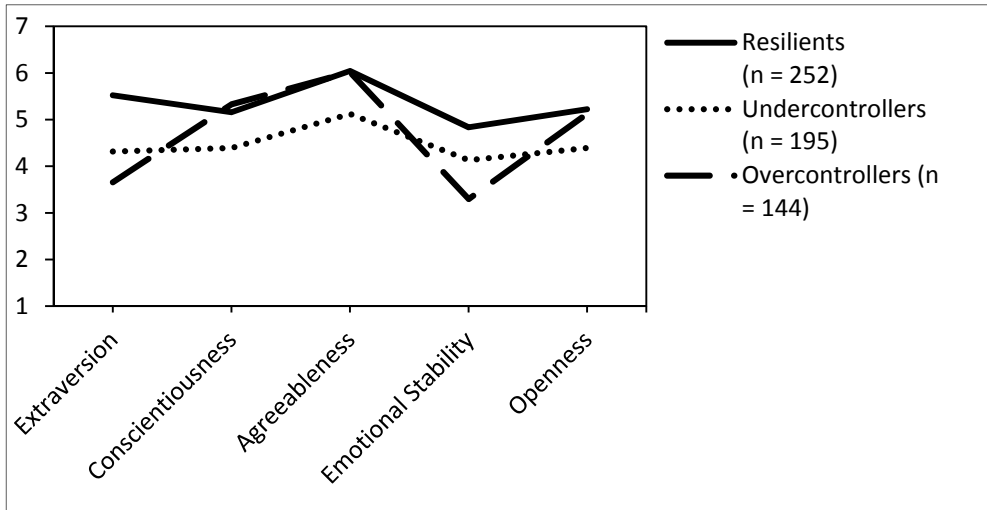


Figure 2.1 The personality prototypes and their relations with the Big Five personality traits

*Ethnic group's work norm*

All participants rated the perceived work norm in Dutch culture on a 4-item, 7-point scale (1 = completely disagree, 7 = completely agree). Items started with “In Dutch culture...” and read 1) work is very important, 2) work determines who you are, 3) people feel very bound to work, 4) work is an important part of life. Internal consistency was satisfactory ( $\alpha = .70$ ). Participants who had indicated they also identified with another group besides the majority group ( $n = 179$ ) were asked about the perceived work norm in this culture. Items were the same as for the perceived Dutch work norm, except for the beginning “In my culture...”. Internal consistency was high ( $\alpha = .82$ ). We used the perceived norm of the ethnic group students identified most with<sup>4</sup>: the Dutch majority group ( $n = 457$ ) or their minority group ( $n = 134$ ).

The use of ethnic-specific work norms is supported in several ways. First, Exploratory Factor Analyses on the eight items measuring work norms of the Dutch and other ethnic culture favor a two-factor over a one-factor solution ( $\chi^2(7, n = 179) = 165.33, p < .001$ ), in which the two factors represent the work norms of the Dutch versus other ethnic culture. Cross-loadings are not higher than 0.16; the correlation between the two factors is moderate ( $r = .32, p < .001$ ). Second, participants who identify with the Dutch and another ethnic culture differentiate between the norms of those groups, as they report a significantly higher work norm in the Dutch culture ( $M = 5.80, SD = 0.91$ ) compared to their other culture ( $M = 5.36, SD = 1.12$ ),  $t = 4.89, p$

<sup>4</sup> Highest ethnic group identification was determined by comparing the extent to which participants felt Dutch (0 = not at all Dutch, 10 = very Dutch) and, if they indicated that they also identified with another group, the extent to which they identified with that group (0 = not at all, 10 = very much).

$< .001$ ,  $d = 0.43$ . Finally, among those who identify more strongly with another group than the Dutch, testing for differences in parameters of both norms in regression analyses shows that the work norm of the other ethnic culture is more predictive of work-related motivation and behavior than the Dutch norm ( $\Delta b = .18$ ,  $p_{diff} = .067$  for intrinsic work motivation,  $\Delta b = .17$ ,  $p_{diff} = .052$  for extrinsic work motivation,  $\Delta b = .04$ ,  $p_{diff} = .636$  for preparatory job search behavior,  $\Delta b = .46$ ,  $p_{diff} = .028$  for job search intentions). In sum, participants consider work norms of the Dutch and their other ethnic group as distinct, and these norms relate differentially to their work-related motivation and -behavior.

### *Work motivation*

Intrinsic motivation was measured with the identified regulation subscale of the Self-Regulation Questionnaire - Job Searching (Vansteenkiste, Lens, de Witte, de Witte, & Deci, 2004). The subscale originally consists of six items but one item was dropped because two items were considered too much alike in Dutch (“I am going to work because I would like to work” and “I am going to work because I find it fun to work”; the former was dropped). The remaining five items were measured on a 7-point scale (1 = completely disagree, 7 = completely agree). Higher scores indicate higher intrinsic work motivation ( $\alpha = .84$ ).

Extrinsic motivation was measured with an abbreviated 5-item version of the external regulation subscale and introjected regulation subscale of the Self-Regulation Questionnaire - Job Searching (Vansteenkiste et al., 2004). The items were measured on a 7-point scale (1 = completely disagree, 7 = completely agree). One sample item reads “I am going to work because that is what one should do”. Higher scores indicate higher extrinsic work motivation ( $\alpha = .71$ ).

### *Job searching*

Job searching was assessed with two measures. As the sample consists of prospective graduates, we included a measure of preparatory job search behavior and job search intentions. Preparatory job search behavior was assessed by an 8-item index (Blau, 1994) that measured how often participants had performed job search related activities. Sample items include ‘making inquiries / reading about getting a job’ and ‘talking with people from school about possible job leads’. Respondents rated the frequency on a 5-point scale (1 = Never, 5 = More than 10 times). Internal consistency was high ( $\alpha = .84$ ).

Job search intentions were measured with two items: “During the upcoming months, how much effort will you put in finding a job?” (1 = No effort at all, 7 = Very much) and “how much time will you invest in job searching?” (1 = Less than once a month, 6 = Every day). Higher scores indicate higher job search intentions ( $r = .71$ ). Due to uneven measurement scales, items were z-standardized before taking the mean.

Table 2.1 Descriptive statistics and bivariate correlations of study variables

	M	SD	4	5	6	7	8	9	10	11	12	13
1. Resilient	0.43	0.49	.66***	.32***	.18***	.43***	.50***	.04	.17***	-.02	.10*	.02
2. Overcontroller	0.24	0.43	-.51***	.14***	.22***	.26***	-.51***	.04	.08†	.05	.00	.00
3. Undercontroller	0.33	0.47	-.23***	-.47***	-.38***	-.69***	-.07	-.08†	-	-.02	-.11**	-.02
4. Extraversion	4.67	1.12		.09*	-.04	.19***	.48***	.03	.10*	.07	.08†	-.01
5. Openness to experience	4.92	0.81			.19***	.38***	.04	.11**	.24***	.09*	.15***	.02
6. Conscientiousness	4.95	1.01				.30***	-.02	.16***	.23***	.05	.10*	.15**
7. Agreeableness	5.72	0.66					.03	.11**	.29***	.10*	.15***	.07
8. Emotional stability	4.23	1.04						.00	-.03	-.13**	-.01	-.05
9. Ethnic work norm	5.55	0.88							.36***	.23***	.12**	.11*
10. Intrinsic work motivation	5.70	0.90								.39***	.23***	.18***
11. Extrinsic work motivation	4.59	1.16									.09*	.11*
12. Prep. job search behavior	1.62	1.09										.31***
13. Job search intentions <sup>1,2</sup>	3.84	1.61										

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

<sup>1</sup> Due to uneven measurement scales, items were z-standardized before the scale was constructed. For illustrative purposes, the scale mean of the uncentered items is reported in Table 2.1.

<sup>2</sup> The measure of job search intentions was only relevant for those who had not yet found employment for after graduation. As 123 prospective graduates had already found employment, this measure was relevant to 468 respondents.

## Results

Descriptive statistics and bivariate correlations of the study variables can be found in Table 2.1. In line with expectations, perceived work norms are positively correlated with indicators of work motivation and job searching. Hypotheses were tested in a Structural Equation Modeling (SEM) framework in Mplus 7.0. The hypothesis that the relation between perceived work norms and job searching is mediated by work motivation was tested with Ordinary Least Squares regression analysis. For both direct and indirect relations, bootstrapped analyses were performed to account for potential non-normal variable distributions. In bootstrapping, random samples are generated based on the original data (in the current analyses, 1,000 sets). For each random sample, the direct and mediated effects were computed. The distribution of these effects was then used to obtain bootstrapped 95% confidence intervals for the size of the effects.

The positive relation between work norms and job searching was mediated by higher levels of work motivation.<sup>1</sup> First, a higher perceived work norm was related to higher levels of intrinsic motivation ( $b = .61$ , 95% CI .40 to .89,  $t = 5.17$ ,  $p < .001$ ) and extrinsic motivation ( $b = .30$ , 95% CI .19 to .50,  $t = 4.05$ ,  $p < .001$ ). Second, and portrayed in Table 2.2, the direct effect of the perceived work norm on preparatory job search behavior was completely mediated by work motivation. More specifically, testing for indirect effects shows intrinsic motivation to mediate the relation between perceived work norm and preparatory job search behavior ( $b = .10$ , 95% CI .04 to .17,  $t = 3.25$ ,  $p = .001$ ), whereas extrinsic motivation did not mediate this relation ( $b = .00$ , 95% CI -.03 to .04,  $t = 0.15$ ,  $p = .882$ ). The same pattern was observed for job search intentions, with significant mediation of intrinsic motivation ( $b = .08$ , 95% CI .01 to .14,  $t = 2.36$ ,  $p = .018$ ), and no mediation of extrinsic motivation ( $b = .02$ , 95% CI -.02 to .06,  $t = 0.86$ ,  $p = .390$ ). Indeed, a higher perceived work norm related to more job searching because of a higher (intrinsic) motivation to work.

We hypothesized that the relation between perceived group norms on the one hand and individual work motivation and job searching on the other hand would be stronger among overcontrollers than among resilient and undercontrollers. We used multiple group analysis in Mplus to analyze whether the relations between work norms, work motivation, and job searching were different between the three personality prototypes. As a baseline model, we constrained all relations to be equal for resilient, undercontrollers, and overcontrollers. In step 2, we allowed the relations between work norms and work motivation to be different for overcontrollers compared to resilient and undercontrollers. This led to a significant improvement of the model fit compared to the baseline model ( $\Delta\chi^2(2) = 8.63$ ,  $p = .013$ ). Allowing these relations to also be different for undercontrollers and resilient did not improve the model fit compared

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<sup>1</sup> The direct and indirect effects were very similar in models with and without controlling for respondents' personality type (results available upon request). For reasons of parsimony, we report the models without controlling for personality type.



to the step-2 model ( $\Delta\chi^2(2) = 0.38, p = .827$ ). Allowing the direct links of work norms with job searching to be different for overcontrollers compared to resilient and undercontrollers also did not improve the model fit compared to the step-2 model ( $\Delta\chi^2(2) = 0.84, p = .657$ ).<sup>2</sup>

Figure 2.2 depicts the model that best describes the data. In line with expectations, the relation between work norms and work motivation is stronger among overcontrollers compared to undercontrollers and resilient. This applies to the direct relations between work norms and intrinsic as well as extrinsic work motivation. In addition, we used moderated mediation analysis for latent interaction variables to examine whether the mediating role of work motivation is stronger among overcontrollers compared to undercontrollers and resilient. This was not the case ( $bs < .08, ps > .363$ ).<sup>3</sup>

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<sup>2</sup> We took a person-centered approach and focus on personality prototypes to build on prior studies in this field and because of its parsimoniousness. A variable-centered approach would allow to explore the effects of the separate Big Five personality traits. In addition, prediction of outcomes may be greater for trait-based approaches (McCrae, Terracciano, Cost, & Ozer, 2006). Therefore, we have also analyzed the extent to which Big Five personality traits moderate the direct and indirect relations between work norms, work motivation, and job search behavior. The general pattern is that Big Five personality traits do not moderate these relations (results available upon request). Specifically, for the moderating role of Big Five personality traits in the relation between work norms and work motivation, only the relation between work norms and intrinsic work motivation is moderated, only by agreeableness. That is, intrinsic work motivation was less strongly related to work norms among agreeable job seekers. The mediating role of work motivation in the relation between work norms and job search behavior was generally not moderated by Big Five personality traits either. Again, the only significant effect concerned the relation between work norms and preparatory job search behavior that was mediated by intrinsic work motivation; this mediation effect was less strong among agreeable job seekers. Conscientiousness, extraversion, openness to experience, and emotional stability did not moderate the relations examined in the current paper. Correlations between the Big Five personality traits, work motivation, and job search behavior are portrayed in Table 2.1.

<sup>3</sup> The findings that the relation between norms and motivation is stronger for overcontrollers, while the relation between norms and job searching mediated by motivation is not stronger for overcontrollers may seem like a contradiction. However, these patterns can be found at the same time. That is, the significant moderation analysis shows that the motivation of overcontrollers is more strongly related to norms in their environment, while the non-significant moderated mediation analyses shows that the relation between norms and job searching is explained by (intrinsic) work motivation, regardless of personality prototype. Hence, the mechanism through which norms relate to behavior are the same for all groups (i.e., through work motivation), while some groups may be more sensitive to those norms, which is why these norms more strongly relate to their motivation.

Table 2.2. Motivation mediates the relation between perceived own group's work norm and job searching

	Preparatory job search behavior			Job search intentions		
	<i>b</i>	<i>SE</i>	95% <i>CI</i>	<i>b</i>	<i>SE</i>	95% <i>CI</i>
Perceived work norm	.23**	.09	.07 to .41	.08	.09	-.09 to .26
Intrinsic work motivation				.25***	.07	.12 to .38
Extrinsic work motivation				.01	.08	-.16 to .18
				.45*	.18	.11 to .80
				.19	.21	-.24 to .59
				.34*	.16	.05 to .66
				.17	.20	-.19 to .59

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

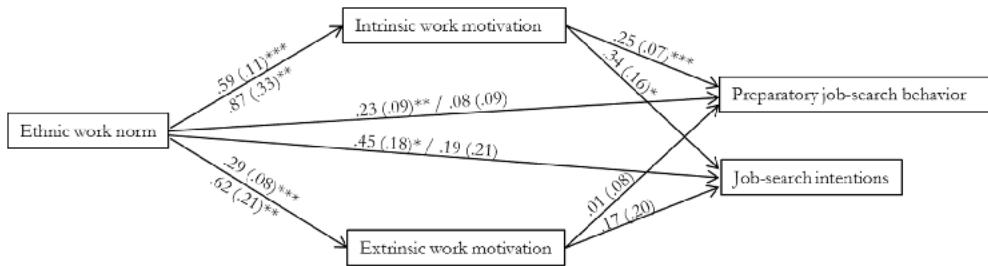


Figure 2.2 Differential sensitivity to contextual influence among overcontrollers

Note: Unstandardized estimates (b (SE)) above arrows apply to undercontrollers and resilient; unstandardized estimates below arrows apply to overcontrollers. If these estimates did not significantly differ, estimates for all personality types are depicted above the arrows. Arrows from ethnic work norm to preparatory job search behavior and job search intentions depict the relations without controlling for work motivation, followed by the relations controlled for work motivation.

## Discussion

The present study applied a social identity perspective to the concept of work motivation among labor market entrants. Although work motivation has been shown to be predictive of employment chances for labor market entrants (Kanfer et al., 2001), its social identity component had not been examined before. We found that work motivation is socio-contextually determined, as work norms in job seekers’ social context predicted individual work motivation and job searching. In line with expectations, sensitivity to this contextual influence was dependent on job seekers’ personality.

Our results confirm the importance of perceived work norms in relevant social groups, as a higher perceived work norm in the ethnic group was related to higher levels of intrinsic motivation, which in turn predicted higher preparatory job search behavior and job search intentions. These findings align with previous organizational research that showed that identification with a group is associated with individual work-related motivation and behavior among employees (Obschonka et al., 2012; van Knippenberg & van Schie, 2000). Moreover, our findings are consistent with research that measured perceived norms explicitly and found relations with motivation and behavior in the domains of health and academic achievement (Oyserman et al., 2007; Oyserman, 2008). The current study shows that perceived work norms in someone’s ethnic group similarly relate to motivation and behavior in the context of job searching among labor market entrants.

Even though a higher perceived work norm was also related to higher levels of extrinsic motivation, extrinsic motivation did not predict preparatory job search behavior and job search intentions. This is consistent with a recent finding that intrinsic motivation has more favorable correlates with work related measures as compared to extrinsic motivation (Moran, Diefendorff, Kim, & Liu, 2012). Together, this suggests

that intrinsic work motivation is more influential in work-related behavior than extrinsic work motivation.

The extent to which the social context predicted the motivation and behavior of individuals was dependent on their personality. While the relation between work norms and work motivation was significant among all personality types, it was strongest among overcontrollers. This aligns with previous research on contextual sensitivity, which had found that overcontrollers may be more sensitive to negative norms (Steca et al., 2007; Yu et al., 2013). By extending this to sensitivity of positive norms, overcontrollers seem more susceptible to contextual influence, regardless of whether these are negative or positive factors (cf. Nieuwenhuis et al., 2013).

Several features of this study strengthen the conclusions that can be drawn from our results. Theoretically, we were able to build on literature in organizational research on the role of groups in work-related behavior. While investigating work motivation among labor market entrants, we considered the role of ethnic instead of organizational groups. To acquire deeper insight into the process through which group identification affects motivation, we explicitly measured the perception of group norms, which had proven relevant in other domains of identity based motivation (Oyserman et al., 2007). Methodologically, we used a large-scale survey which is representative for Dutch VET graduates. With 23% of the respondents identifying most with an ethnic minority group, we were able to provide insight in majority-minority processes that can likely be generalized to the Dutch population of VET graduates.

Some limitations of the current study need to be addressed. First, we relied on self-report data, which means that the observed correlations may have occurred because of common method variance (Spector, 2006). Although we could not use objective measures of work norms, as social identity theory theorizes about someone's own perception of a norm, more objective measures of job searching would have improved the current study. Second, this study used cross-sectional data, which does not allow for causal inferences about the observed relations between perceived group norms and individual behavior. It seems unlikely, however, that the hypothesized direction of effects is reversed and that individual behavior influences the perceived group norm.

### **Implications for research and policy**

Future research could consider other social groups that influence individual motivation and behavior. The current study focused on the role of perceived ethnic group norms to facilitate comparisons with previous research on identity based motivation (e.g., Oyserman et al., 2007) and because ethnic identity is salient among late adolescents (French et al., 2006). Future research could include other social categories that have proven relevant in other domains (Oyserman & James, 2010). For example, gender roles have been related to achievement related choices (Eccles, 2011), social class norms to academic achievement (Oyserman et al., 2007), and age-related expectations to work attitudes and behavior (Rhodes, 1983). Norms in these social groups may be similarly related to work motivation and job searching among labor market entrants.

The findings of the current study might inspire interventions that aim to stimulate youth to actively search for employment. To achieve higher levels of individual motivation and job searching, as the current study shows, attention could be devoted to perceived work norms in relevant social groups. Given that work values are least stable during tertiary school (Jin & Rounds, 2012) and school peers influence each other's transitions into early adulthood (Kiuru et al., 2012), it seems advisable to especially target late adolescents. At the school level, interventions could target existing misperceptions about peer norms (Burchell, Rettie, & Patel, 2013). Previous studies have shown that adolescents overestimate peer norms, leading to norm misperceptions, in various domains (e.g., drinking, Perkins, 2007; weight, Perkins, Perkins & Craig, 2010; drug use, McCabe, 2008). In the current study, adolescents may have similar misperceptions about work norms. To illustrate, ethnic minorities overestimated the work norm of the majority group, as they reported a more positive majority work norm than the majority group itself (results not shown). At the same time, ethnic minorities reported a lower work norm for their own group than for the majority group, which may be an underestimation of the ethnic minority's work norm. One approach to correct possible misperceptions about work norms is to ask people to estimate work norms among peers and confront them afterwards with the actual norms of these peers. When this approach was used in a study on drinking norms, the perceived norms at 3- and 6- month follow-up were more realistic and led to decreased alcohol consumption (Neighbors, Larimer, & Lewis, 2004).

## Conclusion

The current study has provided new insights into the role of social groups on work motivation among labor market entrants. The importance of work in someone's ethnic group seems relevant for an individual's motivation to work and subsequent job searching. In conclusion, work motivation and job searching appear contextually determined: especially among those sensitive to contextual influence, people seem to work when they believe that is what people like them do.



# 3

## Self-control trumps work motivation in predicting job searching

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Current labor market entrants face an increasingly challenging job search process. Effective guidance of job seekers requires identification of relevant job search skills. Self-control (i.e., the ability to control one's thoughts, actions, and response tendencies in view of a long-term goal, such as finding employment) is assumed to be one such relevant job search skill. The current study is the first to empirically assess the importance of self-control in the job search process. This is compared to the role of motivation, which is generally considered a crucial predictor of job searching. Based on a sample of 403 Dutch prospective vocational education and training graduates, we found that higher levels of self-control were related to higher levels of preparatory job search behavior and job search intentions half a year later, shortly before labor market entrance. Self-control was a significantly stronger predictor of job searching than work motivation. Moreover, relations between self-control and job searching were largely independent of motivation, which may suggest that job seekers benefit from self-control through adaptive habits and routines that are unaffected by motivation. We propose that job search interventions, which traditionally focus on strengthening motivation, may benefit from a stronger focus on improving self-control skills.

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Recent unemployment rates illustrate the scarcity of employment options for current job seekers. Especially among younger job seekers, for whom unemployment rates have exceeded 50% in parts of the US and Europe (Eurostat, 2012; U.S. Bureau of Labor Statistics, 2012), a successful transition into the labor market has become increasingly challenging. Furthermore, early careers are characterized as turbulent due to temporary contracts, unstable jobs, and multiple transitions between employment and unemployment (Russell & Connell, 2001; Eurostat, 2012). Given the societal and individual consequences of unemployment (Petersen & Mortimer, 2006; Wanberg, 2012), it is of no surprise that the Action Plan for Youth of the Organisation for Economic Co-operation and Development (OECD) aims “to produce better outcomes for youth in the longer run by equipping them with relevant skills and removing barriers to their employment.” (OECD, 2013, p.2).

Effective equipment of labor market entrants starts with the identification of the most relevant skills and barriers in the labor market. Focusing on the job search process as a quintessential component of the transition into the labor market (Saks & Ashforth, 1999), correlational and intervention research has yielded considerable insight in relevant success factors (Saks, 2006). For example, a meta-analysis of correlational studies found that positive expectancies and motivation are related to more intensive job search behavior and better employment chances (Kanfer, Wanberg, & Kantrowitz, 2001). Accordingly, several intervention programs have been successful in increasing skills of coping with setbacks and more general feelings of self-efficacy, leading to better employment chances (see Wanberg, 2012, and Price & Vinokur, in press, for overviews). However, a comparison of the conceptual description of job searching and its empirically assessed correlates suggests that prior empirical studies may have overlooked an important characteristic: job seekers’ self-control.

### **Self-control**

Conceptually, job search behavior is described as a process in which self-control plays a pivotal role (Kanfer et al., 2001): Job seekers largely manage their own search process as they decide on their investment in terms of job search intensity, diversity and persistence.<sup>1</sup> Self-reflection on the search process and its outcomes may lead to further adjustments in search-related thoughts, affect, and actions. Hence, the ability to regulate one’s thoughts and actions seems essential to a successful job search process (Kanfer

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<sup>1</sup> Different types of job seekers experience the job search process differently (Kanfer et al., 2001). For unemployed job seekers in the labor force, job searching may be less autonomous and self-regulated as they need to meet certain criteria to be eligible for unemployment benefits (e.g., Wanberg, Glomb, Song, & Sorenson, 2005). Also for prospective labor market entrants without unemployment benefits, which is the type of job seeker considered in the current paper, external factors may influence the job search process. For example, students may be influenced by work norms in the social environment (Baay, van Aken, van der Lippe, de Ridder, 2014) or career counseling support (Whiston, Brecheisen, & Stephens, 2003). In the presence of these contextual factors, job seekers can still shape their own job searching to a large degree.



et al., 2001; van Hoye & Saks, 2008). This ability to control thoughts and actions, together with the ability to alter or override dominant response tendencies in view of a long-term goal (e.g., finding a job), is referred to as self-control (de Ridder, Lensvelt-Mulders, Finkenauer, Stok, & Baumeister, 2012). Job search behavior fits the typical description of a self-control dilemma, as people need to make a trade-off between immediately gratifying actions (e.g., video gaming) and actions that have a higher pay-off in the long run (i.e., spending time searching for vacancies that eventually may lead to a job).

Despite self-control potentially being a relevant factor in job searching, it has mainly been considered from a conceptual point of view (Kanfer et al., 2001). One related study has considered the role of controlling one's motivation and emotions (Wanberg, Kanfer, & Rotundo, 1999), but we know of no empirical studies linking the job search process to the general ability to control oneself. Our primary goal in this paper is to fill this gap.

Empirical findings in related fields suggest that self-control may be important in job search behavior. Across a wide range of behavioral outcomes, self-control relates to the promotion of positive outcomes (e.g., happiness, relationship commitment) and the avoidance of negative outcomes (e.g., overeating, overspending, unwanted pregnancy, smoking, alcohol and drug abuse, and lifetime delinquency) (e.g., Baumeister, Heatherton, & Tice, 1994; Gottfredson & Hirschi, 1990; Tangney, Baumeister, & Boone, 2004; Vohs & Faber, 2007; de Ridder et al., 2012). Most notably, self-control is even more predictive of academic achievement than IQ (Duckworth & Seligman, 2005). Based on these studies and the conceptualization of job searching as a self-regulated process, self-control is important in achievement settings like job searching. Therefore, we hypothesize that higher levels of self-control predict more job searching.

### **Self-control and motivation**

The extent to which self-control plays a role in the job search process may depend on the job-seeker's motivation to find employment. While the direct role of motivational aspects in the job search process is evident (Kanfer et al., 2001; Zikic & Saks, 2009), it is less evident whether motivation moderates the relation between self-control and job search behavior. As elaborated upon below, it could be that motivation amplifies self-control effects (i.e., people may invest more self-control in job searching when they are more motivated to find work), compensates for self-control (i.e., high motivation may compensate for a lack of self-control, and vice versa) or does not influence self-control effects (i.e., self-control is beneficial in job searching irrespective of someone's motivation). The role of motivation in self-control is conceptually debated in the self-control literature (Inzlicht & Schmeichel, 2012; Inzlicht, Schmeichel, & Macrae, 2014), but empirical studies are scarce. Studying the interactive effects of self-control and motivation in the job search process may therefore add insight to both the job search literature and self-control literature.

Amplifying effects of self-control and motivation can be expected when self-control investment is perceived as a conscious decision. Building on the finding that people have limited self-control resources (e.g., Baumeister, Bratslavsky, Muraven, & Tice, 1998; Muraven & Baumeister, 2000), individuals may need to be selective when deciding in which goals they invest their self-control. These decisions on self-control investment may be related to people's motivation (Zimmerman, 2000), which is empirically demonstrated in the context of a problem-solving task (Muraven & Slessareva, 2003). Similarly, people may invest self-control in job searching to the extent that their motivation gives reason for that, rendering a stronger effect of self-control if their work motivation is higher.

Compensatory mechanisms of motivation and self-control may be present in light of motivational conflict (Baumeister & Vohs, 2007). Tasks for which motivation is high, or without conflicting desires, do not constitute a self-control dilemma. However, if two desires clash (e.g., a friend's invitation for video gaming shortly before a job vacancy's application deadline), self-control may be needed to strive for the long-term instead of the short-term goal. Hence, self-control may be most needed in cases of low motivation or when conflicting tasks are equally motivating. There is some empirical evidence that suggest that effects of self-control can indeed compensate for low motivation in the domains of sexuality (Gailliot & Baumeister, 2007) and choice tests (Miller, 1997). Hence, this perspective suggests that self-control and job search behavior may be more strongly related if work motivation is lower.

Independent effects of motivation and self-control would not merely reflect the lack of amplifying or compensatory effects; they can also be predicted from recent literature that introduced *effortless* self-control. While self-control shows significant relations to effortful behaviors (e.g., making coping plans), this relation is more than twice as strong for effortless behaviors (e.g., habitual snacking) (de Ridder et al., 2012). Studies on how successful self-controllers benefit from their self-control in an effortless way point to the importance of adaptive habits and routines. Instead of intensively using self-control, successful self-controllers actually report to use self-control less frequently (Hofmann, Baumeister, Förster, & Vohs, 2012). One explanation for this seemingly effortless use of self-control is that self-control is related to adaptive habits (Adriaanse, Kroese, Gillebaart, & de Ridder, 2014). In the job search context, these habits could include subscribing for vacancy alerts, instantly updating one's CV when relevant changes occur, and routinely discussing job searching with friends and teachers. As habits automatize behavior and require minimum effort (Verplanken, 2006), they can be effective regardless of people's motivation for this behavior. In fact, motivation and habits are not necessarily related (von Bothmer & Fridlund, 2005). Hence, the effortless self-control perspective suggests that self-control is positively related to job search behavior independent of motivation.

### Current study

The current study addresses the role of self-control and motivation in the job search process of prospective vocational education and training (VET) graduates. First, we examine whether higher levels of self-control predict more job search behavior. Second, we explore whether the interactive effects of self-control and motivation in the job search process take place in an amplifying, compensatory, or independent fashion. The research questions are investigated in a sample of VET 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 unemployment rates that are twice as high compared to higher educated workforce entrants (Statistics Netherlands, 2010, 2013; U. S. Department of Labor, Bureau of Labor Statistics, 2012).

## Methods

### Sample and procedures

Data were collected as part of the larger longitudinal study “School2Work” on the school-to-work transition of VET students in the Netherlands. A cohort of students is followed from their final year of VET until three years later (see the Appendix for an extensive description of the project and data collection process). VET is the lowest of three main tracks that students can enroll in after their high school in the Netherlands. Among vocational graduates, the two main post-graduation possibilities are to enter the labor market or to continue their education in a higher track. Most recent numbers on the Netherlands indicate that 56% of VET graduates continue their education (Statistics Netherlands, 2010, 2013), while the economic crisis has likely further increased this rate. The current sample’s continuation rate during the second wave is 59%. Most of the other graduates aim to enter the labor market and therefore constitute the current study’s subsample of interest.

A total of 1765 prospective vocational graduates participated between September 2011 and December 2011 in the first measurement wave. Approximately six months later, schools were visited for a second measurement wave, still before graduation. This design enabled tracking prospective graduates’ post-graduation plans and their preparatory behavior to achieve that plan. For the current study, we measured self-control and motivation at the first wave and job search behavior at the second wave. Of the 747 students who in the first wave indicated that they intended to enter the labor market, we excluded students who did not plan to graduate by the end of the academic year ( $n = 62$ ), who did not complete the questionnaire ( $n = 8$ ), and those who did not fill out the questionnaire seriously (e.g., answering a series of thirty items with “neutral”) ( $n = 42$ ). These exclusions resulted in a subsample of 635 VET graduates who, at the first wave, intended to enter the labor market.

The response rate at the second wave of the 635 students was 61%. For the current study, students were additionally excluded if they, based on the second wave, had already left their VET (with ( $n = 68$ ) or without ( $n = 9$ ) diploma), no longer intended to enter the labor market ( $n = 119$ ) or no longer planned to graduate by the end of the academic year ( $n = 36$ ). This left a total sample of 403 students.

The mean age of the sample was 22.01 years ( $SD = 5.06$ ); 55% of the respondents were female; 32% had an ethnic minority background, with at least one parent born abroad.

Questionnaires were filled out in class under supervision of the students' career counselor and a research assistant. Students who filled out their e-mail address participated in a raffle of 12 vouchers of 25 Euros.

## Measures

### *Self-control*

Self-control was assessed at the first measurement wave with the 13-item Brief Self-Control Scale (Tangney et al., 2004). The Self-Control Scale combines people's ability to inhibit inner responses (e.g., "Sometimes I can't stop myself from doing something, even if I know it is wrong", reversed) with the ability to initiate action (e.g., "I am able to work effectively toward long-term goals"). Tangney et al. (2004) demonstrated that the extended 36-item scale has good reliability (Cronbach's  $\alpha = .89$ ) and good test-retest reliability ( $r = .89$  over 3 weeks). The current study employed the 13-item brief scale that is also developed by the original authors, which showed good psychometric properties and a strong correlation with the full scale ( $r = .93$ ; Tangney et al., 2004). The scale has been used among different populations including adolescents (e.g., Duckworth & Seligman, 2005). Items were rated on a 7-point scale (1 = Completely disagree, 7 = Completely agree). Cronbach's alpha in the current sample is .78.

### *Motivation*

To examine the role of motivation, we use the most commonly used distinction between intrinsic and extrinsic motivation (Ryan & Deci, 2000). *A priori*, we did not suspect one dimension to be a more relevant moderator than the other, so both were taken into account.

Intrinsic motivation was measured at the first measurement wave with the identified regulation subscale of the Self-Regulation Questionnaire - Job Searching (Vansteenkiste, Lens, de Witte, de Witte, & Deci, 2004). The subscale originally consisted of six items but one item was dropped because two items were considered too much alike in Dutch ("I am going to work because I would like to work" and "I am going to work because I find it fun to work"; the former was dropped). The remaining five items were measured on a 7-point scale (1 = Completely disagree, 7 = Completely agree). Cronbach's alpha is .83.

Extrinsic motivation was also measured with the Self-Regulation Questionnaire - Job Searching. Following Vansteenkiste et al. (2004), the external and introjected

regulation subscales were combined into one measure for extrinsic motivation. Again, due to questionnaire length constraints, five items that were considered sufficiently distinct were included (i.e., if two items were considered too much alike, only one was included; for example, “I go working because my salary will allow me to buy all things I ever wanted to buy” and “I go working because my salary will allow me to buy a lot” were considered too much alike; the former was dropped). The items were measured on a 7-point scale (1 = Completely disagree, 7 = Completely agree). Cronbach’s alpha is .71.

### *Job search behavior*

Intermediate VET is organized on an individual basis, so no school-wide graduation date exists. Especially in smaller VET programs, each participant graduates as soon as all requirements are completed. Training programs typically last two to four years and practical training takes up to 60%. Hence, students have been exposed to the labor market for an extensive time by their final year and the school expects career counselors in school to encourage students to prepare themselves for the labor market at an early stage. It is therefore expected that students engage in job searching well before graduation, which is supported by the finding that 89% had thought about job searching by the second measurement wave. Active job search behavior may not be exhibited by all students yet (in part due to graduation dates further in the future and career counselors not encouraging it). Therefore, we used measures of preparatory (rather than active) job search behavior and job search intentions. Preparatory job search behavior was assessed with an 8-item index (Blau, 1994) that measured how often participants had performed job search related activities. Sample items include ‘making inquiries / reading about getting a job’ and ‘talking with people from school about possible job leads’. Respondents rated the frequency on a 5-point scale (1 = Never, 5 = More than 10 times). Cronbach’s alpha is .82.

Job search intentions were measured with two items: “During the upcoming months, how much effort will you put in finding a job?” (1 = No effort at all, 7 = Very much) and “how much time will you invest in job searching?” (1 = Less than once a month, 6 = Every day). The correlation between the two items is .74. Due to uneven measurement scales, z-scores of the items were used to construct the scale.

### **Analyses**

Respondents who participated in the first wave and fulfilled the selection criteria, but who did not participate in the second wave, were incorporated in the analyses through Full Information Maximum Likelihood (FIML). Previous studies have found that the exclusion of missing cases (i.e., listwise deletion) can lead to biased results (Asendorpf, van de Schoot, Denissen, Hutteman, 2014; Harel, Zimmerman, & Dekhtyar, 2008; Myers, 2011). Instead, it is recommended to incorporate missing cases by imputing values (Multiple Imputation) or by estimating parameters based on the information available in the dataset (FIML) (Enders, 2010; Graham, 2009). As FIML uses the raw

data instead of an aggregation of the data (e.g., covariance matrix), FIML uses all available information in the dataset, unlike MI. Simulation studies show that FIML is superior in estimating parameters in regression-type of models compared to other approaches to missing data (Enders, 2001; Olinsky, Chen, & Harlow, 2003). We denoted in Mplus to estimate models while using FIML with robust standard errors, which accounts for possible non-normality of the data.

We examined the direct and interactive effects of self-control and motivation measured at the first wave on levels of job search behavior at the second measurement wave. Preparatory job search behavior and job search intentions were measured continuously; therefore, ordinary least squares (OLS) regression was performed. Interaction effects were tested with the product variables of the centered scales, separately for intrinsic and extrinsic motivation. We present hierarchical models, starting with the effects of work motivation (Model 1), adding self-control (Model 2) and the interaction effects for self-control with intrinsic motivation (Model 3) and self-control with extrinsic motivation (Model 4). Models 3 and 4 were tested in separate analyses.

### Attrition analyses

Attrition analyses were performed to examine whether students who were excluded from the analyses differed on self-control or motivation. Students who were excluded based on their answers on the first wave (i.e., graduation after summer, questionnaire not entirely or seriously filled out) had marginally significantly lower self-control ( $p = .069, d = .17$ ) and intrinsic work motivation ( $p = .094, d = .18$ ) than those who remained in the analyses. No differences with regard to the study variables were found depending on future plans at the first wave (whether to continue education or to enter the labor market), and response and exclusion criteria at the second wave.

## Results

Table 3.1 shows the bivariate relations between self-control, motivation, and job search behavior. Self-control is related to (T2) preparatory job search behavior and (T1 and T2) job search intentions, while intrinsic work motivation seems more strongly related to job search behavior than extrinsic work motivation.

Table 3.1 Descriptive statistics and bivariate correlations of study variables

	<i>M</i>	<i>SD</i>	2	3	4	5	6	7
1. T1 Self-control	4.24	0.79	.16**	-.08	.07	.24***	.27***	.31***
2. T1 Intrinsic motivation	5.76	0.89		.41***	.21***	.20***	.20**	.07
3. T1 Extrinsic motivation	4.58	1.16			.08	.14*	.08	-.03
4. T1 Preparatory job search behavior	1.70	1.09				.26***	.39***	.10
5. T1 Job search intentions <sup>a</sup>	3.99	1.56					.34***	.40***
6. T2 Preparatory job search behavior	2.27	0.78						.37***
7. T2 Job search intentions <sup>a</sup>	4.09	1.65						

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

<sup>a</sup> Due to uneven measurement scales, items were z-standardized before the scale was constructed. For illustrative purposes, the scale mean of the unstandardized items is reported in Table 3.1.

The first hypothesis considered the direct relation between self-control and job search behavior. Consistent with this hypothesis, self-control was related to higher levels of T2 preparatory job search behavior ( $\beta = .22, t = 3.28, p = .001$ ) and T2 job search intentions ( $\beta = .32, t = 4.19, p < .001$ ) (see Tables 3.2 and 3.3).<sup>2</sup>

Neither intrinsic nor extrinsic work motivation predicted T2 job search behaviors once self-control was controlled. Testing whether self-control effects were the same as intrinsic and extrinsic work motivation effects for preparatory job search behavior and job search behavior revealed significant differences (Wald  $\chi^2(4) = 18.01, p = .001$ ), indicating that self-control effects were significantly stronger than work motivation effects.

The second hypothesis addressed the relation between the effects of self-control and motivation on job search behavior. Across two measures of job search behavior (i.e., preparatory job search behavior and job search intentions) and two measures of motivation (i.e., intrinsic and extrinsic work motivation), there was no pattern of significant interaction effects between self-control and motivation. The relation between self-control and job search intentions was marginally significantly ( $p = .081$ ) stronger with higher levels of intrinsic work motivation. By and large, the positive relation between self-control and job search behavior was independent of someone's motivation.

Several sensitivity checks for the interaction analyses were performed. First, as methods using latent interaction effects may be better able to detect interactive effects (Marsh, Wen, & Hau, 2004), we additionally investigated the significance of latent

<sup>2</sup> Tables S3.1 and S3.2 show that results were similar when T1 levels of job searching were controlled (Model 1), when students for whom parental financial support would continue after graduation were excluded (Model 2), when students who expected to be able and want to stay with their internship were excluded (Model 3), when T2 measures of work motivation were used (Model 4), and when missing cases were not handled with FIML (Model 5).

interactions (see Nagengast et al., 2011, for an example how to perform this type of analysis). No significant interaction effects were observed with this approach. Second, given the relatively low levels of job search behavior, we examined whether a floor effect affected the results. We performed a median split on preparatory job search behavior and examined the hypothesized relations for the group above the median. For the group with the relatively higher levels of job search behavior, the main and interactive effects of self-control and motivation were similar to those observed for the full sample, suggesting that a potential floor effect did not affect the results. Third, we checked whether the longitudinal character of the data influenced the pattern of our findings. However, no interaction effects were found in the cross-sectional data either.

A post-hoc power analysis was performed to assess whether the observed non-significant interaction-effects were due to low power. Calculations in GPower 3.1 (Faul, Erdfelder, Lang, & Buchner, 2007) showed that our study had a power of .83 to detect a small effect size ( $f^2 = .02$ ). The cross-sectional data, in which 635 respondents participated and no significant interaction-effects were found either, had a power of .95. Hence, the lack of significant interaction-effects is not attributable to low power.

Table 3.2 Direct and interactive effects of self-control and motivation on T2 preparatory job search behavior (N = 403)

	Model 1		Model 2		Model 3		Model 4	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Intrinsic work motivation	.20*	.10	.14	.10	.14	.10	.14	.10
Extrinsic work motivation	.00	.06	.02	.06	.02	.06	.02	.06
Self-control			.21**	.07	.21**	.07	.21**	.07
Self-control * Intrinsic					.03	.09		
Self-control * Extrinsic							-.02	.05
R <sup>2</sup>	.05		.09		.09		.09	

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

Table 3.3 Direct and interactive effects of self-control and motivation on T2 job search intentions (N=403)

	Model 1		Model 2		Model 3		Model 4	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Intrinsic work motivation	.08	.11	-.03	.11	-.03	.10	-.04	.11
Extrinsic work motivation	-.07	.06	-.01	.06	.02	.06	.00	.06
Self-control			.38***	.10	.32**	.10	.38***	.10
Self-control * Intrinsic					.18†	.10		
Self-control * Extrinsic							-.06	.05
R <sup>2</sup>	.01		.10		.09		.10	

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



## Discussion

The current study examined the predictive effects of self-control and motivation in the job search process of prospective VET graduates. In line with previous research showing beneficial effects of self-control for other behaviors, the current study extended this evidence to the job search context: Those who reported higher levels of self-control reported higher levels of preparatory job search behavior and job search intentions, also when initial levels were controlled for. We also showed that the relation between self-control and job search behavior was independent of (intrinsic and extrinsic) motivation. The observed strength of the relation between self-control and the outcome measures is comparable to other domains ( $r = .26$  in de Ridder et al., 2012). In sum, it seems that job searchers benefit from self-control skills that enable them to intensively engage in the dynamic, recursive job search process.

### Scientific and practical contributions

Our finding that self-control is positively associated with job search behavior has both theoretical and practical implications. Theoretically, we provided support for the notion that job searching is a process that requires self-control. Although this has been described conceptually (Kanfer et al., 2001), the current study is the first to show empirically that the general ability to control oneself is related to the job search process. This finding, together with studies that corroborate the importance of self-control in other domains (de Ridder et al., 2012), provides input for interventions that aim to equip adolescent labor market entrants with relevant skills, as called for by the OECD (2013). Some existing interventions already address elements that can be considered self-control skills, such as the ability to control impulses (Muraven, 2010) and to initiate action (Bode, de Ridder, Kuijer, & Bensing, 2007). Another aspect of self-control that may deserve attention is perseverance (Duckworth, Peterson, Matthews, & Kelly, 2007). Learning these self-control skills may help job seekers to actively, persistently and successfully engage in the job search process.

The current study additionally examined whether benefits from self-control in the job search process depended on job-seekers' motivation. The interrelation between motivation and self-control is debated in the self-control literature, as it has remained unclear whether these factors influence each other and/or interact in self-controlled processes (e.g., Inzlicht & Schmeichel, 2012; Inzlicht et al., 2014). The current study provided evidence that the use of self-control may be independent of motivation. Apart from one marginally significant interaction effect, the pattern of non-significant interaction effects between self-control and motivation suggest that students who were lowly motivated to start working derived equal benefits from their self-control capacities as compared to highly motivated students. One interpretation for the lack of additive self-control benefits for motivated students, which receives increasing attention in the self-control literature, is that self-control operates as a relatively effortless, routine process (Adriaanse et al., 2014; Hofmann et al., 2012). Instead of a

conscious, motivation-based investment of self-control, successful self-controllers may have generally adaptive habits and routines that steer them away from distractions and in the direction of job searching. It could, for example, be that they initiate job search behavior more habitually (e.g., subscribing for vacancy alerts, instantly updating one's CV when relevant changes occur). Also, in line with research that shows that (only) successful self-controllers unconsciously use temptations as reminder of long-term goals, which evokes behavior toward those goals (Fishbach, Friedman, & Kruglanski, 2003), it may be that successful self-controllers also deal differently with distractions (e.g., invitations for video gaming).

### **Directions for future research and limitations**

Because our study is the first to test the interactive relation between motivation and self-control in survey research, more research is needed to better understand how self-control functions in the job search process. Even though our findings suggest that the use of self-control in the job search process is effortless, the self-report measure of the general availability of self-control can only provide an indication in this direction. Alternatively, it could be that self-controllers search for a job because of other motives than captured by the measure of work motivation (e.g., compliance with classmates who search for a job or with career counselors who encourage job searching). If self-control is indeed effortless in the job search process, it is worthwhile examining mechanisms through which routine self-control works. Based on prior research it could be that successful self-controllers create a mental link between temptations and long-term goals (Fishbach et al., 2003), build adaptive habits (Adriaanse et al., 2014), and use routines that help to avoid distracting temptations (Hofmann et al., 2012). Insight into these mechanisms may be gained by examining which type of job search behaviors relate to self-control most strongly. On the one hand, it may be worthwhile to ask respondents to report on domain-specific habits and challenges (e.g., in a diary study that also assesses more habitual forms of job searching, such as vacancy alerts; see also Wanberg et al., 1999). On the other hand, as effortless use of self-control may be difficult to accurately report on, future research may also benefit from designing behavioral tasks that assess the role of self-control in the job search process. For example, respondents can be asked to search for vacancies in a lab setting, where temptations (e.g., Facebook pop-ups, video game requests) are presented to distract job seekers.

More research is needed to rule out alternative explanations before the non-significant interaction effects between self-control and motivation can be interpreted as convincing evidence for the effortless self-control perspective. Although most previously studied self-control behaviors require skills to inhibit a response to a specific temptation (e.g., drug use), job search behavior seems to require skills that initiate rather than inhibit action. A recent study on different dimensions of self-control found support for the distinction between the ability to inhibit a response to a temptation (i.e., inhibitory self-control) and the ability to focus on long-term goals (i.e., initiatory self-

control) (de Ridder, de Boer, Lugtig, Bakker, & van Hooft, 2011). The alternative explanation that a stronger effect of self-control when job seekers are motivated only applies to initiatory (and not to inhibitory) capacities could be investigated with measures that distinguish between these dimensions of self-control. A second difference with traditional self-control research is that we conceptualized self-control as a relatively stable trait-characteristic, while part of the theorizing on self-control pertains to self-control as a state characteristic that fluctuates across actions. It might be the case that motivation is more likely to compensate for temporarily low levels as opposed to low trait-levels of self-control. Instead of studying the job search process over a 6-months' time-interval, future research could examine interactive effects of self-control and motivation in the job search process in a shorter time-frame (e.g., by using a daily diary design).

Several study characteristics may limit the generalizability of the results. The second wave took place while many of the students were working full-time at their internship, which led to a response rate of 61%. However, given that the cross-sectional models as well as the models that accounted for missing cases led to the same conclusions, non-response does not seem to have affected the conclusions. Moreover, the current study focused on lower-educated labor market entrants. The type of job seeker (e.g., labor market entrant, unemployed individual, and job to-job seeker) as well as the educational background of the job seeker may be related to the job search process (Kanfer et al., 2001). Especially differences in motivation seem likely, which could affect the self-regulation of the job search process. We aimed to contribute to the understanding of the job search process of a group at high risk for unemployment; future research could assess whether self-control is important in different samples and in predicting job search success as well.

### Conclusion

The current study provided evidence for the role of self-control as an important factor that influences the job search process of lower-educated labor market entrants. The beneficial effects of self-control on job search behavior were independent of someone's motivation, which aligns with studies showing that people benefit from their self-control through adaptive habits and routines.

Table S3.1 Additional analyses with other measures or inclusion criteria with T2 preparatory job search behavior as outcome variable

	Model 1	Model 2	Model 3	Model 4	Model 5
	<i>b</i>	<i>b</i>	<i>b</i>	<i>b</i>	<i>b</i>
	<i>SE</i>	<i>SE</i>	<i>SE</i>	<i>SE</i>	<i>SE</i>
Intrinsic work motivation	.08	.10	.11	.13	.14
Extrinsic work motivation	.02	-.03	.09	.08	.02
Self-control	.22**	.24**	.17†	.23**	.24**
Self-control * Intrinsic	.08	.11	-.10	.11	.03
Self-control * Extrinsic	.03	-.00	-.09	.07	.00
T1 preparatory job search behavior	.26***	.05	.06	.08	.05

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

<sup>a</sup> The significant direct effect of intrinsic work motivation on preparatory job search behavior is marginally significant when T1 preparatory job search behavior is controlled for ( $\beta = .15, SE = .08, p = .061$ ).

Table S3.2 Additional analyses with different measures or inclusion criteria with T2 job search intentions as outcome variable

	Model 1	Model 2	Model 3	Model 4	Model 5
	<i>b</i>	<i>b</i>	<i>b</i>	<i>b</i>	<i>b</i>
	<i>SE</i>	<i>SE</i>	<i>SE</i>	<i>SE</i>	<i>SE</i>
Intrinsic work motivation	-.08	-.01	.13	.02	.10
Extrinsic work motivation	-.07	-.02	.08	-.09	.06
Self-control	.28**	.34***	.11	.26*	.36***
Self-control * Intrinsic	.18†	.21†	.11	.28*	.15
Self-control * Extrinsic	-.08	-.02	.06	-.05	.07
T1 job search intentions	.43***	.09	.06	-.01	.08

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

*Note:* The main effect of self-control, the interaction effect of self-control and intrinsic work motivation, and the interaction effect of self-control and extrinsic work motivation were tested in separate models but are presented below each other to keep the appendix more parsimonious.

Model 1: Analyses while controlling for T1 job searching

Model 2: Analyses excluding students for whom parental financial support would continue after graduation

Model 3: Analyses excluding students who expected to be able and want to stay with their internship

Model 4: Analyses included T2 intrinsic and extrinsic work motivation

Model 5: Analyses without imputation of cases who were missing at T2





# 4

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

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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 education and 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 Hoye, 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 Hoye 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, 1999a). 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.

### **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 Hoye 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 4.1).

*Table 4.1* 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		
Extraversion	+		+	+	+
Conscientiousness		+	+		+
Agreeableness	+		+		+
Emotional stability	+	+		+	+
Openness to experience	+		+	+	+
Social capital availability	+	+	+		

### 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, 2013b; Podolny, 2001). Also, having valuable social relations may reinforce an individual’s identity and work-related norms (Castilla et al., 2013b; 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, 1999a; 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, Rosentretter, 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 4.1).

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, 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 4.1).

### **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 4.1).

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 education and training (VET) 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 (U.S. Department of Labor, 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 VET students. In collaboration with a regional VET institute, a cohort of students is followed from their final year of education until three years later (see the Appendix 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 VET 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 4.2 provides an overview of the mean, standard deviation and bivariate correlations of the independent and dependent variables in the current study.

#### *Big Five personality traits*

Personality traits were measured with the Quick Big Five (Vermulst & Gerris, 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 are 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, 1999b). 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).

Table 4.2 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	0.66			-.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	0.80					.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	0.73							.21***	.11	.08	-.21**
8 T1 Future employment status	410	0.31	0.46								.16†	.17*	-.08
9 T3 Number of job offers	326	1.77	0.66									.28***	-.02
10 T3 Employment status	339	0.79	0.41										1
11 T3 Unemployment duration <sup>1</sup>	248	0.27	3.72										

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

<sup>1</sup> 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.

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, 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 4.2, 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 4.3). 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.

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Table 4.3 Effects of Big Five personality traits and social capital on job search behavior and job search outcomes

	T1 Number of offers <sup>1</sup> <i>n</i> = 457 <i>b</i> ( <i>SE</i> )	T1 Future employment status <sup>2</sup> <i>n</i> = 410 <i>b</i> ( <i>SE</i> )	T3 Number of offers <sup>1</sup> <i>n</i> = 326 <i>b</i> ( <i>SE</i> )	T3 Employment status <sup>2</sup> <i>n</i> = 339 <i>b</i> ( <i>SE</i> )	T3 Unemployment duration <sup>3</sup> <i>n</i> = 319 <i>b</i> ( <i>SE</i> )
Extraversion	.05 (.08)	.06 (.09)	-.08 (.09)	.29 (.12)*	-.12 (.06)*
Conscientiousness	.01 (.09)	-.21 (.11)*	-.01 (.11)	-.04 (.13)	.05 (.06)
Agreeableness	.13 (.14)	-.13 (.16)	-.08 (.18)	-.26 (.23)	.08 (.10)
Emotional stability	.18 (.09)*	.24 (.11)*	-.16 (.10) †	.27 (.13)*	-.13 (.06)*
Openness	.15 (.11)	.08 (.14)	-.02 (.14)	-.12 (.17)	.07 (.08)
Social capital	.12 (.03)***	.07 (.04) †	.07 (.04) †	.05 (.05)	-.04 (.02)

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

<sup>1</sup>The ordinal variable number of job offers (T1 & T3) is analyzed with ordinal regression analysis.

<sup>2</sup>The nominal variable employment status (T1 & T3) is analyzed with binary logistic regression analysis.

<sup>3</sup>The variable unemployment duration is analyzed with Cox regression survival analysis.

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

### 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 4.4). 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.

*Table 4.4* 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 – .07	-.02 – .05
Conscientiousness	-.01 – .04	-.04 – .01
Agreeableness	.00 – .14	-.02 – .07
Emotional stability	.00 – .06	-.02 – .06
Openness to experience	.00 – .10	-.03 – .12

### 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 VET graduates, who tend to be underrepresented in scientific research despite their relatively poorer chances in the labor market (U.S. Department of Labor, 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 VET 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 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 VET 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 VET, 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 (Trzesniewski 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, 1999a), 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, 1999a; 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 devoting 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.







# 5

## The “(in)visible hand” of social capital: Accessible versus mobilized social capital in the school-to-work transition

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Numerous studies have reported a positive association between social capital and employment chances. However, it has remained unclear whether individuals need to activate their social capital to benefit from it. We extend previous research by observing a longitudinal relation between (pre-graduation) social capital and (post-graduation) employment chances, while also controlling for personality traits. Testing the invisible hand hypothesis, we found that mobilized and unmobilized social capital both predict employment chances. No support was found for additive effects of general and sector-specific social capital. In sum, social relations can be helpful in the job search process, even without talking to them.

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Abundant research has found an association between social capital and labor market success such that being connected to more social relations is predictive of more career success. Specifically, social capital predicts labor market success in terms of employment chances, salary, occupational status, occupational fit, and a range of post-hire outcomes (see Castilla, 2005; Castilla, Lan, & Rissing, 2013a for overviews). Apart from individual employment chances, social group disparities in employment chances (between, for example, ethnic or socio-economic groups) are also partly attributable to social capital (e.g., Kanas, van Tubergen, & van der Lippe, 2011). Hence, social capital may explain individual success as well as disparities between social groups (Calvó-Armengol & Jackson, 2004; Lu, Ruan, & Lai, 2013; McDonald, 2011a; Son & Lin, 2012). The question remains, however, whether individuals (and social groups) play an active part in the role of social capital. Specifically, previous research on employment chances has not considered effects of available but unused social capital compared to actively used social capital. This distinction between accessible and mobilized social capital sheds light on the invisible hand hypothesis, which predicts that job seekers can benefit from their social capital regardless of their use of it. As social capital benefits may also depend on the relevance of social capital, we additionally differentiate between social capital in general and social capital in one's own sector.

The aim of the current paper is to contribute to a better understanding of when and why social capital matters in the job search process. Addressing when social capital matters (i.e., if social ties are merely accessible or actively mobilized; if social ties are within one's sector or not) also sheds light on why social capital matters. That is, we presume in this paper that accessible versus mobilized and general versus sector-specific social capital transfer different social capital resources. So, for example, if mobilized social capital is more predictive of employment chances compared to unmobilized social capital, this may mean that the resources that are transferred through mobilized social capital may be more important explanations as to why social capital matters. These insights, in turn, may add to the discussion of the relevance of social capital in the job search context (e.g., Dika & Singh, 2002; Durlauf, 2002; Kadushin, 2004; Mouw, 2003, 2006; Sobel, 2002).

In the current paper, we firstly apply social capital theories to identify social capital mechanisms that may be relevant in finding employment. We then differentiate between accessible versus mobilized and general versus sector-specific social capital and formulate hypotheses on their relative importance in predicting employment chances. Hypotheses are tested in a longitudinal sample of vocational education and training (VET) students who were followed in their transition from school to work (2011-2012). VET constitutes the largest educational level in the Netherlands and is considered middle education, so the sample is diverse with regard to ethnic and socio-economic background. Hence, students are expected to differ in the social capital they could inherit from their parents. In addition, because VET is a relatively practical educational track that includes multiple internships, students have had the chance to

develop and mobilize their social capital, especially within their own sector. Hence, the current sample provides a good setting for testing our hypotheses.

Not all indicators of employment chances may be affected by social capital. To illustrate, searching via social networks can have a positive effect on the number of job offers and job-education fit, while it can have a negative effect on job search intensity and unemployment duration (Franzen & Hangartner, 2006; Mouw, 2003). This pattern may be best understood with a sequential search model (Montgomery, 1992), which assumes that job seekers are rational in their job search process: If they expect to receive job offers from their social network, they will be less inclined to search themselves. Also, given a higher number of expected job offers, they will set a higher standard, which may result in an ultimately better job (Devine & Kiefer, 1991; Mouw, 2003). Stated differently, rather than whether and how fast employment is obtained, social networks may especially predict the type of job someone is able to obtain. Both aspects are explored in the current paper on school-to-work transitions, as we consider whether or not employment is obtained, unemployment duration, the number of job offers, and contract type.

### Social capital mechanisms

In resemblance with other definitions in the field (e.g., Lin, 2001), we define social capital as resources that individuals can access through their social relations. Hence, social capital exists in the relation between two (or more) individuals. Previous theoretical ideas have identified the potential for exchange between individuals of several aspects: information, influence, social credentials, and reinforcement (Castilla, Lan, & Rissing, 2013b; Lin, 2001). We briefly describe the potential exchange of these resources before we apply it to the distinction of accessible versus mobilized and general versus sector-specific social capital.

In the labor market, which is characterized by an imperfect flow of information, social relations can be used to transfer information from organizations to individuals (e.g., job vacancies) and from individuals to organizations (e.g., available job candidates). The long stream of research debating the strength of weak ties (i.e., social relations outside one's core friendships and family) is mainly based on the importance of this resource (e.g., Burt, 1992; Granovetter, 1995; Yakubovich, 2005). Information may add quantitatively to the job seeker's knowledge (i.e., more job vacancies), but it may also be a qualitative addition (e.g., organization-specific information to apply effectively and timely or vacancies that fit the job seeker particularly well) (Fernandez & Weinberg, 1997; Franzen & Hangartner, 2006). Although few empirical studies have used separate measures for the different social capital resources, there is some evidence that higher levels of social capital are related to receiving more job search related information (McDonald, 2011a; Seibert, Kraimer, & Laiden, 2001).

Social relations can also be used to exert influence in the job search process. Examples of this influence, which people with more social capital are more likely to

experience, include social relations putting in a good word or otherwise steering the decision-making process (McDonald, 2011a; Seibert et al., 2001).

Even though information and influence are considered the primary resources of social capital in the job search process (Smith, Menon, Thompson, 2012; Yakubovich, 2005), at least two other resources can be identified. First, social relations can also function as *social credentials*. Being connected to certain people, without them intentionally influencing the process, may signal something about a job seeker's ability, legitimacy, status, and social capital (Castilla et al., 2013b; Erickson, 2001). Second, *reinforcement* may occur if social relations affect a sense of identity and recognition that is functional in the job search process. Being socially connected to individuals and groups may confirm self-efficacy and group belonging, and may therefore help to maintain mental health (McPherson, Smith-Lovin, & Cook, 2001; Rose, 2000). This, in turn, is related to more successful job searching (e.g., van Ryn & Vinokur, 1992). Also, social relations may influence people's work norms, which in turn predict their job search behavior (Baay, van Aken, van der Lippe, & de Ridder, 2014). Hence, social capital may also affect the job search process beyond intentional use of social ties, through social credentials and reinforcement.

The relative importance of the four different resources that can be transferred through social relations has received little attention (see e.g., McDonald, 2011a; Seibert et al., 2001, for notable exceptions). By differentiating between accessible versus mobilized and general versus sector-specific social capital, we aim to shed some light on the relative importance of the resources that are transferred through these forms of social capital. In general, however, based on the resources that can be transferred through social capital and in line with previous empirical research, we hypothesize:

H1: Higher levels of social capital are related to better employment chances.

### **Accessible versus mobilized social capital**

The extent to which social capital mechanisms (i.e., information, influence, social credentials, and reinforcement) play a role may depend on whether or not job seekers mobilize their social capital. We therefore differentiate between social capital that job seekers can access through their social relations, but with whom they have not spoken about their job search ("accessible") and social capital that people have spoken with ("mobilized"). Building on the social capital mechanisms, we derive two hypotheses on the relative importance of accessible versus mobilized social capital. First, accessible social capital may even be important if it has not been mobilized. That is, social capital effects are thought to be underestimated if only mobilized social capital is taken into account (e.g., Chua, 2014; Lancee, 2010; Lin, 2008; McDonald, 2011b). For example, it is predicted that social ties who have not (yet) been mobilized may spontaneously provide information, introduce the job seeker or put in a good word to a potentially relevant employee, or function as social credential (Lin, 1999b, 2000, 2001). The invisible hand hypothesis represents this view and postulates that social capital may affect labor market chances regardless of job seekers' use of it (Chua, 2014; Lin, 2008;

McDonald, 2011b). Empirical evidence for the invisible hand of social capital comes from Erickson (2001)'s finding that the effects of social capital access on income and acquiring a management position were not dependent on whether someone used this social capital in the job search process. Corroboration of this finding comes from research on "non-searching", which focuses on people who did not search for a job (and, by definition, neither used their social capital in their job search): Also among non-searchers, social capital access is related to a higher quality and quantity of job offers (Campbell & Rosenfeld, 1985; Chua, 2014; Elliott, 2000; Lin, 2003; Lin & Ao, 2008; McDonald, 2005, 2010; McDonald & Elder, 2006; McDonald & Day, 2010). Apparently, social capital can be beneficial even if people do not purposively draw on it.

Two studies that focus on employers give somewhat more insight into the process of the invisible hand. Erickson (2001) finds that employers value an employee's access to social capital in itself: Company representatives who were asked to mention the company's job requirements if a high-level job vacancy became available, mentioned "having good contacts" as a requirement in 61 percent of the cases. Marsden and Gorman (2001) show that employers in the recruitment- and selection-process use shared social relations between job applicants and the employer to find the best candidate, which can benefit applicants in terms of information or a recommendation without their use of that social relation. Together, these pieces of evidence support the notion that unmobilized social capital can be beneficial in the job search process. Thus, based on the idea that especially social credentials and reinforcement can play a role even if social ties are not mobilized (information and influence to a lesser extent) as well as based on empirical evidence for the invisible hand hypothesis, both unmobilized and mobilized social capital seem to matter. However, previous empirical studies have typically focused on one either mobilized or unmobilized social capital, without controlling for the other type. This way, it is unclear from an empirical point of view whether unmobilized social capital has an additive effect when mobilized social capital is controlled for. Hence, we hypothesize:

H2a: Unmobilized and mobilized social capital both predict employment chances, also when controlling for the other type.

Other social capital researchers argue that mobilization of social capital is necessary before it becomes useful: "*Mobilization, not access per se, results in an outcome. Access, as we noted, is only potential social capital.*" (Kadushin, 2004, p. 84; cf. Gabbay & Leenders, 2001; Lin, 2001; Lin, Cooks, & Burt, 2001; Seibert et al., 2001). One reason may be that social relations are more likely to provide information and influence if the job seeker has mobilized them in the job search process. From the social relations' perspective, they are likely more aware and willing to help a job seeker if they have been mobilized (e.g., Marin, 2012). From a job seekers' perspective, they target who they mobilize (Small, 2013), so they have likely already approached the most beneficial ties. Thus, based on the higher likelihood for information and influence to be passed on through mobilized

social capital (and the equal chance for social credentials and reinforcement to be passed on), we hypothesize:

H2b: Mobilized social capital is more strongly related to employment chances than unmobilized social capital.

### **General versus sector-specific social capital**

The importance of social capital mechanisms (i.e., information, influence, social credentials, and reinforcement) may also depend on the relevance of the social capital. Several scholars have argued that social capital may be useful for one goal in one context, while useless in another (Coleman, 1988; Erickson, 2001; Flap & Völker, 2001; Lin, 2001). We predict that the value of social capital resources can depend on whether that social tie is inside the sector someone works in (“sector-specific”) or outside that sector (“general”). We derive two hypotheses on the relative importance of general versus sector-specific social capital.

Social ties outside one’s field may be able to transfer some relevant resources in the job search process. In fact, general and sector-specific social capital may be equally important in providing social credentials and reinforcement. For social credentials, it could be that being connected to people within one’s own sector yields more respect. On the other hand, if employers look for employees who bring their own social network, it may be worthwhile to have social relations outside the field. This way, the newly hired employer can act as broker between two fields, which can also yield positive outcomes for the firm (Burt, 1992; Brass, Galaskiewicz, Greve, & Tsai, 2004). Hence, both general as well as sector-specific social capital can function as social credential. Similarly, general or sector-specific social capital may be equally important for reinforcement: Both types of social capital could influence people’s identity and self-efficacy. Hence, because social ties outside one’s field can provide at least some resources, both general and sector-specific social capital seem to matter. However, previous empirical studies have typically focused on either general or sector-specific social capital, without controlling for the other type. This way, it is unclear from an empirical point of view whether general social capital has an additive effect when sector-specific social capital is controlled for. Hence, we hypothesize:

H3a: General and sector-specific social capital both predict employment chances, also when controlling for the other type.

For obtaining information and influence, we predict that sector-specific social capital is more relevant than general social capital. With regard to information, it seems that job seekers in the healthcare sector benefit more from receiving information (e.g., job vacancies) from health caregivers than from employees in different fields (Erickson, 2001). Also, people are more likely to share information if they know that others are credentialed for that job (Marin, 2012), so information seems to predominantly flow within a sector. Similarly, influence may be especially important in one’s own sector. Letters of recommendation from contacts in someone’s field can describe more relevant characteristics of job seekers and referees are more likely to be



known (and respected). Four studies support this point. Loury (2006) found that using social ties only has wage benefits if the social tie knew the boss or arranged an interview for the job seeker. Also, Simon and Warner (1992) found a wage advantage for those who heard about their jobs through a social tie within the firm compared to a social tie outside the firm. Hansen (1996) as well as Flap and Völker (2008) showed that social capital resources through the family were only supportive of employment chances if both father and son worked in the same sector. Thus, because social ties within one's sector seem better able to provide relevant information and influence (and equally able to provide social credentials and reinforcement) compared to social ties outside one's sector, we hypothesize:

H3b: Sector-specific social capital is more strongly related to employment chances than general social capital.

### Causal versus spurious social capital effects

Scholars have argued that the social capital literature may be biased because studies report social capital effects that are in fact spurious (Durlauf, 2002; Mouw, 2003, 2006). We address several of the concerns that have been raised to contribute some insight to this discussion. One issue concerns reversed causality, which occurs if obtaining employment leads to more social capital instead of social capital leading to employment. This issue is especially relevant with cross-sectional data and among already employed individuals, which has been used mostly in previous research. We address this by collecting longitudinal data among labor market entrants. As social capital is measured before labor market entrance and employment chances after graduation, a potential relation between social capital and employment chances is less likely to be reversed.

A second concern is that the relation between social capital and employment is driven by a third, unobserved variable (Franzen & Hangartner, 2006; Mouw, 2003, 2006; Obukhova & Lan, 2013). One typical example is the role of personality traits, which may both explain higher levels of social capital and better employment chances. As previous studies have indeed established that personality traits, such as extraversion, relate to both social capital and employment chances (e.g., Baay, van Aken, de Ridder, & van der Lippe, 2014; Caldwell & Burger, 1998), analyses are controlled for Big Five personality traits. Controlling for these personality traits, we exclude the possibility that potentially remaining social capital effects are driven by one prominent third factor, namely personality traits.

A third concern is that positive correlations between ego's and alters' labor market chances were interpreted as social capital effects, while they may have been due to, for example, similar educational levels (i.e., social homophily, McPherson et al., 2001; see also Durlauf, 2002). This concern applies especially to studies that consider the role of job referrals (e.g., Fernandez, Castilla & Moore 2000; Petersen, Saporta, & Seidel, 2000), where the educational level of the job referral may represent the job seeker's

educational level rather than his social capital. Studies that use indirect proxies of social capital resources (e.g., ethnic composition of the network; Kanas, Chiswick, van der Lippe, & van Tubergen, 2012) may also not tap into social capital effects: A higher ethnic homogeneity of the network may represent job seeker's poor integration rather than poor social capital. As we measure social capital resources through a diverse set of occupations within and outside one's sector, the social homophily concern seems less applicable to the current study.

## Data and methods

### School2Work project

Data were collected as part of the larger longitudinal study "School2Work" on the school-to-work transition of VET students in the Netherlands. Instead of contacting a number of schools to collect data, we collaborated with one large, regional VET institute that is representative for the Netherlands. As a result, the School2Work sample is representative of Dutch VET graduates in terms of their age, gender, ethnic background and educational level (within the VET system) (see Appendix). The sample consists of a cohort of VET students who were followed from their final year of education until three years later (see the Appendix for an extensive description of the project and data collection process).

The VET institute provides training in several hundred different vocations on all four levels of VET. Organized in twelve different colleges, the educational tracks cover fields as diverse as automotive, beauty and health care. VET is organized on an individual basis, so no school-wide graduation date exists. Especially in smaller VET programs, each participant graduates as soon as all requirements are completed. Consequently, there is not one single measurement wave that includes post-graduation information for all students. The current study therefore uses the first wave of the data collection (administered on average nine months before graduation; September-December, 2011), the second wave (for those who graduated early; May, 2012), the third wave (for those who graduated as expected; December, 2012), and the fourth wave (for those who graduate late; December, 2013).

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 VET 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 second, third, and fourth waves were collected through email and telephone.<sup>1</sup> 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 and fourth data wave.

### Sample construction

We used a number of selection criteria to construct the sample for the analyses. Most importantly, post-graduation information needed to be available from one of the follow-up waves. Hence, only students were included who indicated to have graduated by the second ( $n = 166$ ), third ( $n = 583$ ), or fourth wave ( $n = 150$ ). Out of these 899 graduates, we focused on those who had made, or attempted to make, the school-to-work transition. Hence, we excluded those students who continued their education after graduation ( $n = 412$ ), became self-employed ( $n = 14$ ), or did something else than entering the labor market ( $n = 54$ ). Participants were also excluded if they did not fill out the questionnaire seriously (indicated by e.g., a series of 30 ‘neutral’ answers;  $n = 12$ ). The majority of the remaining 407 students was female (62%), their average age was 21.42 ( $SD = 4.55$ ); 26% was an ethnic minority with at least one parent born abroad, which is the criterion for being considered an ethnic minority in the Netherlands (Statistics Netherlands, 2014).

### Measures

Even though researchers recommend to include both measures of social capital access and use (Kadushin, 2004; Lin, 1999a, 2001, 2008; Trimble & Kmec, 2011), prior studies have not compared the effects of mobilized and accessible-but-unmobilized social capital. Ties that were used less successfully or non-used ties (i.e. unmobilized social capital) are either neglected (Trimble & Kmec, 2011) or not differentiated from successfully mobilized relations (Lin, 2008). We aim to address this gap in the literature by adapting a commonly used measure of social capital (i.e., the Position Generator and distinguish between the number of accessible ties that people used (mobilized social capital) and the number of accessible ties that people did not use (unmobilized social capital). This measure is used to test Hypotheses 2a and 2b.

<sup>1</sup> The data collection procedure for the second wave among students included in the current paper is through email and telephone. However, the main part of the second wave was collected in class, because most students were still in education. Those participants who could not be reached in class because they were graduated, were contacted through email and telephone. Only those who had graduated by the time of second wave were included in the current paper; information about students who were still in school by the second wave were included based on the third or fourth wave, dependent on when they had graduated.

Social capital was measured with the Position Generator, which maps an individual's social relations through their professions (Lin & Dumin, 1986; Lin & Erickson, 2008). Respondents received a list of professions and were asked to indicate whether they know someone with that profession (Lin, 1999b). Respondents could indicate that they knew this contact from their professional network ("via internship/work"), but also as family member, friend, or acquaintance. Compared to the most commonly used alternative measure of social capital (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, Srijders, & Flap, 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 Healthcare were asked whether they knew a nurse or medical receptionist, while those studying Sports were asked whether they knew a gym teacher or sports teacher at a primary or secondary school). We constructed five variables from this.

The traditionally used measure of social capital was constructed as the sum of the six general and six sector-specific combinations of professions. General social capital was constructed as the sum of the six general combinations of professions. Sector-specific social capital was constructed as the sum of the six sector-specific combinations of professions.

For each combination of professions that respondents knew someone in, it was asked whether they had talked with this person about searching for a job ('No', 'Yes'). Mobilized social capital was constructed as the number of ties that people knew and had talked to. Unmobilized social capital was constructed as the number of ties that people knew, but had not talked to.

Employment chances after graduation were operationalized with four measures: the number of job offers, employment status, unemployment duration, and type of contract. For the number of job offers, participants were asked: "These questions relate to applying for a job after your education. So please do not include applying for side-jobs or internships. How many times did you receive a job offer (for after graduation)?" Answer categories were 'Never', '1-2 times', '3-6 times', '7-10 times', and 'More than 10 times'. Because less than one 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'.

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 date of graduation and the date respondents were hired for their job. For respondents who had not indicated their actual graduation date in a follow-up wave, their own anticipated date of graduation as indicated in the first data wave was used. For respondents who had not found employment by their last participation in the study, the duration was the time between (anticipated) graduation and the final data wave. These cases were censored in the Cox regression survival analyses.

Type of contract was measured with four categories: (1) standby employee (2) temporary without prospect of permanent, (3) temporary with prospect of permanent or contract for more than a year, (4) permanent.

Control variables include the respondents’ sex, age, ethnic background, level of education (level 2, 3 or 4), sector of education (Tech, Leisure, Business, Care, Defense), and personality. Students who have at least one parent from abroad (i.e., first and second-generation) were considered an ethnic minority and were compared to the ethnic majority group. Personality was measured with the Quick Big Five (Vermulst & Gerris, 2005), which is a shortened version of Goldberg’s Big Five questionnaire (Gerris et al., 1998; Goldberg, 1992). The Big Five is a widely used conceptualization of personality and taps into respondents’ extraversion (sample item: ‘talkative’), conscientiousness (‘systematic’), agreeableness (‘pleasant’), emotional stability (‘nervous’- reverse coded), and openness to experience (‘versatile’). All five personality traits were measured with six 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’. Cronbach’s alphas indicate that internal consistency was satisfactory for extraversion ( $\alpha = .87$ ), conscientiousness ( $\alpha = .85$ ), agreeableness ( $\alpha = .77$ ), and emotional stability ( $\alpha = .80$ ). Reliability for openness to experience was moderate ( $\alpha = .66$ ).

Table 5.1 shows the descriptive statistics and bivariate correlations of the study variables.

### **Analyses**

Ordinal regression analysis was performed for the ordinal dependent variables number of job offers and type of contract. 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 relative importance of mobilized versus unmobilized and general versus sector-specific social capital, we tested whether estimates of two predictors were significantly different.

## **Results**

Table 5.2 depicts the relations between different social capital indicators and employment chances while controlling for gender, age, ethnic background, level of education, sector of education and Big Five personality traits. Model 1 only includes the control variables and shows that ethnic minorities and graduates from the business sector reported worse employment chances. Employment chances were not related to gender, age, level of education and Big Five personality traits.

Model 2 includes the traditionally used measure of social capital: the Position Generator asking whether respondents know people in certain professions. This measure of social capital is positively related to a higher number of job offers and a better type of contract after graduation. These findings, showing a relation between social capital before graduation and employment chances after graduation, remain significant when Big Five personality traits are controlled for. The chance of being employed and the unemployment duration were not predicted by social capital. Hence, H1 is partly supported.

Table 5.1 Descriptive statistics and bivariate correlations

	<i>M</i>	<i>SD</i>	17	18	19	20	21	22	23	24	25
1. Age	21.42	4.55	-.03	.03	-.06	-.01	-.05	-.04	-.09†	.05	-.04
2. Female	0.62	0.49	-.18***	-.01	-.21***	-.08	-.22***	-.07	.00	.04	-.12†
3. Ethnic minority (0 = Dutch)	0.26	0.44	.09†	.10†	.01	.13**	.03	-.07	-.19***	.06	-.16**
4. Level of education 4 (ref.)	0.58	0.49									
5. Level of education 3	0.26	0.44	-.13*	-.12*	-.04	-.04	-.17**	-.03	-.07	-.10†	-.18**
6. Level of education 2	0.14	0.35	-.13*	.04	-.17**	-.10*	-.11*	-.01	.01	.07	-.03
7. Care sector (ref.)	0.43	0.49									
8. Tech sector	0.15	0.36	.21***	.08	.18***	.01	.33***	.15**	.05	-.04	.14*
9. Leisure sector	0.28	0.45	.01	-.03	.03	.02	-.00	-.04	.01	-.02	-.00
10. Business sector	0.09	0.29	.12*	.09†	.07	.09†	.12*	-.19***	-.13**	-.00	.03
11. Defense sector	0.05	0.22	-.06	-.02	-.05	-.04	-.06	-.02	.04	-.02	.01
12. Extraversion	4.60	1.19	.14**	.16**	.04	.09†	.16**	-.02	.12*	-.01	.01
13. Conscientiousness	4.91	1.06	-.02	-.01	-.03	-.02	-.01	.03	-.04	-.03	-.02
14. Agreeableness	5.74	0.61	.05	.12*	-.03	.03	.06	.02	-.03	-.02	-.04
15. Emotional stability	4.13	1.08	.09†	-.01	.14**	.06	.10*	-.05	.09	-.09	.06
16. Openness to experience	4.86	0.79	.20***	.23***	.01	.14**	.19***	.01	-.01	-.03	-.09
17. Social capital (SC)	6.73	2.67		.52***	.65***	.83***	.86***	.11*	.09	-.07	.19**
18. Mobilized SC	2.56	2.24			-.32***	.42***	.46***	.11*	.01	.00	.03
19. Unmobilized SC	4.21	2.42				.54***	.55***	.02	.03†	-.05	.16**
20. General SC	3.37	1.52					.42***	.07	.03	-.05	-.11†
21. Sector-specific SC	3.36	1.66						.11*	.02	-.06	.20**
22. Number of job offers	1.73	0.68							.25***	-.11*	.08
23. Employment status	0.14	0.35								-.30***	1
24. Unemployment duration	-0.16	4.63									.03
25. Type of contract	1.43	1.15									

\*\*\* p &lt; .001 \*\* p &lt; .01 \* p &lt; .05 † p &lt; .10

When differentiating between general and sector-specific social capital, no additive effects on employment chances are found (Model 4). However, general social capital ( $b = .14, t = 2.06, p = .039$ ) and sector-specific social capital ( $b = .19, t = 2.45, p = .014$ ) both predict contract type when analyzed separately. Sector-specific social capital predicts the number of job offers ( $b = .17, t = 2.19, p = .029$ ) when general social capital is not controlled for. However, no evidence for additive effects or a stronger effect of sector-specific social capital is found (H3a and H3b not supported).

Table 5.2 Relations between social capital indicators and employment chances.

	Number of job offers	Employment status (0 = unemployed)	Unemployment duration	Contract type
	<i>b (se)</i>	<i>b (se)</i>	<i>b (se)</i>	<i>b (se)</i>
<b>Model 1</b>				
Age	-.01 (.02)	-.04 (.03)	.01 (.01)	.00 (.04)
Gender (female = ref.)	.28 (.34)	-.48 (.53)	.19 (.17)	-.03 (.38)
Ethnicity (Dutch = ref.)	-.23 (.32)	-1.18 (.38)**	.51 (.17)**	-.57 (.33)†
Educ level 4 (ref.)				
Educ level 3	-.04 (.32)	-.11 (.41)	-.14 (.16)	-.74 (.31)*
Educ level 2	.06 (.41)	.40 (.60)	.07 (.19)	-.47 (.35)
Care sector (ref.)				
Tech sector	.44 (.42)	.11 (.74)	-.11 (.20)	.62 (.41)
Leisure sector	-.28 (.28)	-.49 (.48)	.03 (.16)	.09 (.31)
Business sector	-1.91 (.54)***	-1.33 (.51)**	.42 (.26)	.57 (.58)
Defense sector	-.69 (.83)	-1.09 (.87)	.36 (.38)	.49 (.59)
Extraversion	-.01 (.11)	.30 (.16)†	-.08 (.05)	.02 (.14)
Conscientiousness	.14 (.13)	.09 (.17)	-.03 (.06)	-.03 (.14)
Agreeableness	.10 (.21)	-.04 (.31)	-.00 (.11)	-.03 (.19)
Emotional stability	-.11 (.11)	.24 (.19)	-.11 (.06)†	-.01 (.15)
Openness to experience	-.04 (.14)	-.18 (.22)	.04 (.07)	-.18 (.17)
<b>Model 2</b>				
Social capital (SC)	.12 (.05)*	.06 (.07)	-.03 (.03)	.14 (.05)**
<b>Model 3</b>				
Mobilized SC	.16 (.06)*	.04 (.09)	-.03 (.03)	.12 (.06)†
Unmobilized SC	.09 (.06)	.07 (.07)	-.04 (.03)	.16 (.07)*
<b>Model 4</b>				
General SC	.11 (.10)	.12 (.13)	-.06 (.05)	.13 (.10)
Sector-specific SC	.13 (.08)	.01 (.12)	-.01 (.04)	.15 (.09)†

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

Note: Models 2-4 were tested in separate analyses but are presented below each other for reasons of parsimony.

When the distinctions between mobilized versus unmobilized and general versus sector-specific social capital are considered simultaneously, no clear pattern emerges.



Hence, there is not one type of social capital (i.e., mobilized general, mobilized sector-specific, unmobilized general, unmobilized sector-specific) that relates most strongly to employment chances.

As a robustness check, we performed the analyses without Big Five personality traits and other control variables. Results remain the same: Social capital remains predictive of the number of job offers and type of contract; mobilized social capital remains significantly predictive of the number of job offers and marginally significantly predictive of contract type. Unmobilized social capital remains significantly related to contract type. Sector-specific social capital was significantly predictive of contract type (instead of marginally significantly with control variables).

## Discussion

In the current study, we examined whether two characteristics of social capital determine the extent to which social capital predicts successful school-to-work transitions. Specifically, we considered whether the active mobilization of social capital is a condition for social capital to predict better employment chances. Also, we considered whether social capital in one's own sector is more important for employment chances compared to general social capital. Before considering these social capital characteristics, we showed that the traditionally used measure of social capital (i.e., Position Generator, asking whether respondents know people in certain professions) is predictive of the number of job offers and contract type in the current sample of VET graduates. As this was considered in the context of school-to-work transitions, with social capital measured before the transition and employment chances after graduation, the current study provides compelling evidence that social capital contributes to better employment chances. That is, unlike most previous work, the longitudinal study design in the current study excludes the possibility that the obtained job had increased social capital and that the relation between social capital and employment chances was reversed. Also, one critical remark on social capital research is the possibility that the relation between social capital and employment chances is spurious (i.e., driven by a third variable). One alternative explanation for the relation between social capital and employment chances is that people with certain social skills or personality have both more social capital and better employment chances (Baay, van Aken et al., 2014; Caldwell & Burger, 1998). Controlled for Big Five personality traits (i.e., extraversion, agreeableness, emotional stability, conscientiousness, and openness to experience), the relation between social capital and employment chances found in the current study is less likely to be explained by reversed causality or personality as a prominent third factor.

We found that the active mobilization of social capital is not a necessary condition for social capital to predict better employment chances. Specifically, unmobilized social capital was predictive of contract type, also when mobilized social capital was taken

into account. Based on social capital theories, unmobilized social capital can still transfer valuable resources in the job search context. In particular, unmobilized social capital can function as social credential because being connected to certain people may signal a job seeker's ability, status, and social capital beneficial to the company (Castilla et al., 2013b; Erickson, 2001). This may be helpful in obtaining a better, more permanent type of contract. Our finding supports the invisible hand hypothesis, which predicts that social capital can be predictive of employment chances regardless of its use. Research on this topic has, for example, found that non-searchers with more social capital fare better compared to non-searchers with less social capital (McDonald, 2005, 2010; McDonald & Day, 2010; McDonald & Elder, 2006). The current paper extends these studies, because it shows that unmobilized social capital remains predictive of employment chances once mobilized social capital is taken into account. In addition, it shows that job seekers who draw on their social capital can also benefit from the social capital they do not draw on.

Mobilized social capital was also a significant predictor of the number of job offers. This may not be surprising, based on social capital theories, as mobilized social capital can not only provide social credentials and reinforcement, but also information and influence (Lin, 2001). The finding that especially the number of job offers and type of contract (rather than employment status and unemployment duration) were predicted by social capital is in line with a sequential search model (Montgomery, 1992). In this model, it is assumed that people who receive job offers from their social network will be less inclined to search themselves, while they will set a higher standard before they accept a job (Devine & Kiefer, 1991; Mouw, 2003). As also observed in the current paper, people with more social capital are more likely to receive job offers, which did not lead them to obtain a job quicker, but the larger pool of job offers may have helped them in finding a job with a better type of contract.

The measure we developed to differentiate between mobilized and unmobilized social capital is informative because it allows for a direct comparison between accessible yet unmobilized versus accessible, mobilized social relations, which was not possible before (Lin, 2008). This way, it can be examined whether both types of social capital can transfer resources that are functional in the job search process. However, the current study presents only suggestive evidence in this direction and improvements can be made (cf. Hällsten, Edling, Rydgren, 2015).

The use of self-reported through questionnaires may have led to diverse interpretations of "using" social capital. Maybe, they have told their social relations that they will soon end their studies, which they did not interpret as talking about their job search, but which their social relations have interpreted as a hint for help. Also, job seekers may have forgotten that they have talked with their social relations. Finally, we have only considered whether or not job seekers had discussed their job search process with their social relations. However, there may be differences in the effectiveness with which people use their social capital (Baay, Eccles, van Aken, van der Lippe, & de Ridder, 2014; Castilla et al., 2013a). A multi-method approach to map the availability

of social capital quantitatively and the use of social capital qualitatively may be informative to further examine the relative importance of mobilized and unmobilized social capital.

A second extension in the current study was the distinction between general and sector-specific social capital. We found no evidence that general and sector-specific social capital have additive effects or that sector-specific social capital was more predictive of employment chances compared to general social capital. Sector-specific social capital did predict contract type and number of job offers when general social capital was not controlled.

One reason for the lack of differential effects of general versus sector-specific social capital was our distinction between twelve sectors. This fit well to the structure of the educational institute where data collection took place (i.e., it had twelve colleges) and we could make sure to select a similar set of professions per sector in terms of occupational status diversity. However, it does not cover the 700 educational tracks that can be followed in VET. To illustrate, students who were educated in catering and travelling received the same sector-specific social capital indicators, while they typically end up in distinct employment sectors. Hence, despite the advantages of having a heterogeneous sample that is representative of the educational system, it may also be worthwhile to examine general versus sector-specific social capital in a more homogeneous sample. When we explored these relations while focusing on the Tech sector, which is more homogenous, we found that sector-specific social capital is predictive of contract type, while general social capital is not. If focusing on a set of professions, it may also be possible to examine whether sector-specific social capital is especially relevant in certain professions. For example, sector-specific social capital may be especially important if job-related information is more specialized or if the sector is more sensitive to status and hierarchy.

Future research could connect our social capital distinctions (mobilized vs. unmobilized, general vs. sector specific) with different social capital distinctions. For example, research on strong/bonding and weak/bridging ties has suggested that both forms may be important for different reasons (e.g., Granovetter, 1995; Lancee, 2010; Putnam, 2000). While strong/bonding ties may provide reinforcement, weak/bridging ties can provide unique information about job leads and influence the job search process. In a similar vein, we suggested that unmobilized social capital can provide reinforcement, but mobilized social capital may be more important to obtain information. As it may be that especially weak ties need to be mobilized before they transfer resources, it seems interesting to examine mobilization and tie strength in tandem.

Although the not the focus of the current paper, our distinctions between types of social capital may also shed more light on gender differences in the labor market. The traditionally used measure of social capital shows that women have less job-related social capital than men (cf. Lin, 2000). The more specific measures reveal that women

do not mobilize their social capital less intensively; they only have a smaller share of unmobilized social capital than men. Also, their general social capital is not smaller; they only have less sector-specific social capital. As unmobilized and sector-specific social capital are predictive of employment chances, our findings corroborate the idea that women may experience a glass ceiling effect because they have less access to the “old boys” network in their sector (McDonald, 2011a; Smith, 2000; van Emmerik, 2006).

In conclusion, our findings provide a nuanced view on the practical question which strategies are most effective when job seekers, schools, and employment agencies want to learn about networking in the job search context. Should job seekers focus on mobilizing existing ties or on making new connections? Given that both mobilized and unmobilized social capital is predictive of employment chances, it seems that both can be helpful. And should students rely on social ties in general or should there be a specific focus on social ties in the sector someone wants to work in (which are available during internships)? Our findings, while using a broad measure for sector-specific social capital, do not support the notion that social ties in one’s own sector are more beneficial. In that sense, the current study suggests that social networks can provide a variety of resources that can be obtained in different ways and from different people. What is clear, though, is that social relations can be helpful in the job search process, even without talking to them.



Ready...



1

2

3

1

2



# 6

## Harder, better, faster, stronger: Understanding the “pro” in proactive behaviors during school- to-work transitions

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Is a proactive job seeker different from an active job seeker? Although abundant research among employees has shown that proactive people work harder and fare better, the definition of proactivity encompasses more than being active. The current study examined the “pro” component of proactivity during school-to-work transitions, in which action toward future changes, obstacles or opportunities (i.e., the “pro” component) is potentially salient. The general hypothesis was that proactive graduates, besides working harder and faring better, start faster and act stronger toward obstacles and opportunities. Three studies replicated that proactive graduates work harder (e.g., future goal effort) and fare better (e.g., employment chances). In addition, Study 1 shows that the general inclination to spend less effort on goals that are temporally more distant was not present among proactive graduates, which makes them start faster. Study 2 shows that proactive job seekers deal differently with obstacles and opportunities. Anticipated discrimination led (only) proactive individuals to increase their job search behavior and to apply more proactively. Proactive graduates also acted differently toward opportunities (i.e., networking events and job applications), which resulted in a larger pay-off of those events among proactive graduates. Study 3 demonstrates that anticipated discrimination at age 18 was less strongly related to actually having experienced discrimination at age 28 among proactive graduates. The mitigation of the potential effects of discrimination among proactive individuals indicates that they act stronger toward obstacles. In sum, the results indicate that proactive graduates not only work harder and fare better, but also start faster and act stronger.

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In the current era of so-called “boundaryless careers”, individuals are increasingly held responsible for their own career (Major, Turner, & Fletcher, 2006). The critical importance of proactive behavior in the workforce has spurred scientific attention to the concept of proactivity and, as a result, the correlates of proactivity are becoming better well-known (Parker, Bindl, & Strauss, 2010). To illustrate, research shows a positive relation between proactivity and a variety of career-related measures including job searching (Brown, Cober, Kane, Levy, & Shalhoop, 2006; Hu & Gan, 2011), career engagement (Hirschi, Lee, Profeli, & Vondracek, 2013), job performance (Crant, 1995; Thompson, 2005), salary (Converse, Pathak, DePaul-Haddock, Gotlib, & Merbedone, 2012; Seibert, Crant, & Kraimer, 1999), and career satisfaction (Seibert et al., 1999; Seibert, Kraimer, & Crant, 2001). Simplistically summarizing the current body of research, we could conclude that proactivity relates to working harder and faring better.

Even though proactive people may work harder and fare better, the full meaning of proactivity encompasses more. The dictionary description of proactivity, “*acting in anticipation of future problems, needs, or changes*” (Merriam-Webster Online Dictionary, 2014), identifies a potential extension of the literature: Prior studies on proactivity have not explicitly accounted for people’s anticipation of the future. Consequently, extant research on proactivity has really focused on being active rather than being *proactive*. The aim of the current paper is to more fully articulate this “pro” component of proactivity. Studying proactivity in a context in which anticipation of the future is salient, we investigate the extent to which people’s proactivity (in terms of proactive personality and proactive coping skills) is related to *proactive* career-related behaviors, processes and outcomes in school-to-work transitions.

### **Harder, better, faster, stronger**

We argue that proactivity consists of four aspects: Proactive individuals work harder, fare better, start faster, and act stronger. Previous work has shown that proactive individuals indeed work harder and fare better - they are more motivated, and they obtain better long-term outcomes. However, theories of proactivity suggest that proactive individuals not only work harder and fare better, but also start faster and act stronger - they initiate efforts toward goals at an earlier stage, and they actively seek to overcome future obstacles. To illustrate, dispositional models of proactivity describe a taking-charge mindset that enables proactive individuals to deal adequately with future events (Bateman & Crant, 1993; Schwarzer & Taubert, 2002) and a behavioral approach to proactivity outlines a set of proactive actions that foster successful coping with obstacles (Aspinwall & Taylor, 1997). Although empirical tests of these models have established that proactive individuals are more active, the “pro” components of starting faster and acting stronger have remained unstudied. Yet, it may be that especially these “pro” components are central explanations for favorable long-term outcomes of proactive individuals. The relative importance of the “pro” and “active” components does not only advance theoretical understanding of proactivity, but it may also inform intervention programs that aim to improve proactive behaviors and



subsequent outcomes (e.g., Kirby, Kirby, & Lewis, 2002). We aim to contribute by applying proactivity theories to the school-to-work transition and test whether proactivity consists of not only working harder and faring better, but also starting faster and acting stronger.

With regard to working harder, proactive individuals are expected to have a taking-charge mindset (Bateman & Crant, 1993; Schwarzer & Taubert, 2002). This mindset enables proactive individuals to perceive the upcoming school-to-work transition as a challenge rather than a threat. Hence, they are expected to work harder toward their future goals, in particular with regard to job searching. Previous empirical work confirms that proactivity is related to higher levels of job searching (Brown et al., 2006; Hu & Gan, 2011). We aim to replicate this finding with the same operationalization of job searching and extend it with other measures of working harder (i.e., number of job applications; effort toward general future goals).

Second, proactive job seekers are expected to fare better in terms of employment outcomes. This was confirmed in previous studies showing a positive relation between proactivity and the number of job offers (Brown et al., 2006; Hu & Gan, 2011). We aim to replicate this finding and extend it with other measures of faring better (i.e., achievement of general future goals, employment chances, salary, and job satisfaction).

Third, proactive people may start faster. Building on the definition of proactivity, which states that proactivity relates to acting in anticipation of future events (Merriam-Webster Online Dictionary, 2014), proactive people may initiate efforts before rather than after the occurrence of an event (i.e., graduation). Hence, they may engage in goal effort at an earlier stage. Initial empirical support for this hypothesis shows that proactive employees exhibit more personal initiative in their work (Frese, Fay, Hilburger, Leng, & Tag, 1997; Frese, Kring, Soose, & Temple, 1996). Although initiative is similar to early acting, we know of no empirical studies directly testing the hypothesis that proactive job seekers start faster. We examine whether the general inclination to procrastinate working on future goals that are temporally more distant (Steel, 2007) is less strong among proactive graduates, which makes them start faster.

Fourth, proactive people may act stronger toward future obstacles and opportunities. Building on the interactional premise that individuals, environment, and behavior mutually influence one another (Bandura, 1986; Bowers, 1973), it has been argued that especially proactive people are expected to influence, rather than being influenced by, their environment (Aspinwall & Taylor, 1997; Bateman & Crant, 1993; Schwarzer & Taubert, 2002). This may be due to proactive individuals' taking-charge mindset to perceive potential obstacles (e.g., a birthday party for a dieter; anticipated discrimination for a job seeker) as personal challenges and opportunities for growth (Bateman & Crant, 1993; Schwarzer & Taubert, 2002). Also, proactive individuals may be better able to follow a self-regulated set of actions that aim to change the likelihood and impact of future events. According to Aspinwall & Taylor (1997), acting proactively entails preparation for obstacles through resource accumulation and adequate action to control and decrease obstacles. Empirical work among employees

has shown that proactive employees indeed engage in more feedback seeking (Ashford & Black, 1996) and network building (Thompson, 2005), which both can be interpreted as forms of resource accumulation. Moreover, they engage more in job crafting (i.e., redesigning one's job to better meet one's needs and wishes; Berg, Wrzesniewski, & Dutton, 2010), which may be an effective way to deal with obstacles and opportunities. Although these studies provide valuable indirect evidence for the role of proactivity in influencing one's environment, no previous empirical studies have directly tested the hypothesis that proactive job seekers act stronger toward obstacles and opportunities.

One prevailing obstacle among labor market entrants, both in the European and US context, is work-related discrimination (Kalter & Kogan, 2006; Pager, Western, & Bonikowski, 2009). Economic models predict that (statistical) discrimination is salient if employers have little information about workers (Altonji & Pierret, 2001; Schwab, 1986). Based on this argument, especially younger job seekers will suffer from discrimination, as they can offer employers less relevant information (e.g., work experience, references from previous employers). Hence, discrimination in the school-to-work transitions is likely. Yet, proactive coping models suggest that people can take action to cope with obstacles such as discrimination. We examine whether anticipated discrimination leads proactive individuals to take more preparatory action (in terms of job search behavior before labor market entrance) and whether they are more successful in dealing with the obstacle (in terms of actually perceived discrimination after entrance). Even though conceptualizations have focused on dealing with obstacles, taking charge of one's environment may also mean that proactive individuals act differently when facing opportunities. That is, besides decreasing the harmful consequences of obstacles, proactive individuals may also increase the beneficial effects of opportunities. Two important opportunities for job seekers to increase their employment chances are networking events and job applications (van Hooft, van Hooft, & Lievens, 2009). We therefore examine whether proactive individuals also take more preparatory action in anticipation of these opportunities and whether they are more successful in increasing their beneficial effects. By considering whether proactivity is related to the preparatory behavior and consequential effects of both obstacles and opportunities, we apply the conceptual models to specific challenges in the environment and examine the "acting stronger hypothesis".

### **Present research**

In the current paper, we aim to contribute to a better understanding of the "pro" component of proactivity in career-related behaviors and outcomes. We study the relation between proactivity and career-related behaviors and outcomes in three samples of Dutch and American students who are about to graduate. Our focus on students close to graduation helps to get insight into proactivity in various ways. First, the anticipated ending of one developmental task (i.e., schooling) makes orientation toward the future likely to occur. This orientation toward the future has been

understudied in previous work on proactivity. Relatedly, engagement in career behaviors is likely to be salient (Heckhausen & Tomasik, 2002). Hence, we can closely study how proactivity manifests itself in active behaviors. Another reason for focusing on prospective graduates is their anticipated entrance into the labor market, which can be considered both a threat and a challenge (e.g., Newton & Keenan, 1990). Hence, the school-to-work transition is a natural context in which proactive coping with opportunities and obstacles can be studied (Crant, 2000).

Table 6.1 Study overview of hypothesized correlates of proactivity

	Previous research	Study 1	Study 2	Study 3
Working harder				
effort toward future goals		+		
job search behavior	+		+	
number of job applications			+	
Faring better				
achievement of future goals		+		
number of job offers	+		+	
employment chances				+
salary				+
job satisfaction				+
Starting faster				
when graduation temporally distant		+		
Acting stronger				
when discrimination is anticipated			+	+
when attending networking events			+	
when applying for jobs			+	

We use three studies to examine the “pro” and “active” components of proactivity. Table 6.1 provides an overview of the hypothesized relations between graduates’ proactivity and the aspects of working harder, faring better, starting faster, and acting stronger that are examined in the empirical studies presented below. In Study 1, we use longitudinal data to study the relation between proactivity and general future goals among Dutch prospective graduates. Here, we aim to replicate previous research in addressing the “active” component when testing the idea that proactivity is related to working harder toward future goals and faring better in terms of goal achievement. In addition, we address the “pro” component by testing whether proactivity relates to earlier onset of goal-directed effort (i.e., proactive graduates may start working toward future goals faster). In Study 2, we use cross-sectional data from Dutch prospective graduates to examine how proactivity relates to future obstacles and opportunities in the job search process. In addition to replicating that proactive job seekers work harder and fare better, we examine whether proactivity plays a role in the relation between someone’s obstacles and opportunities, and their career-related behaviors and outcomes (i.e., proactive graduates may act stronger toward obstacles

and opportunities). In Study 3, we use longitudinal data from the US to consider the long-term relations between proactivity and employment chances. In addition to replicating whether proactivity at age 18 relates to faring better at age 28, we examine whether proactive individuals have coped better with obstacles at age 28 that they anticipated at age 18 (i.e., acting stronger).

Besides deriving hypotheses that address the “pro” component of proactivity, we also statistically isolate the “pro” component. Previous studies that examined proactivity effects could not always distinguish between the “pro” and “active” component. For example, although a measure of proactivity was related to a higher salary and occupational prestige, the same pattern was found for a measure of self-control (Converse et al., 2012). Consequently, it could be that the career-related outcomes were explained by active behavior, which is captured by both proactivity measures and self-control measures, instead of the future component that is only captured by proactivity. Similarly, relations between proactivity and measures of feedback seeking, taking initiative and job searching provide evidence that proactive people may put effort in changing the current situation, but it does not necessarily capture a future orientation. To illustrate, although Kinicki & Latack’s (1990) Proactive Search scale is related to faster reemployment speed (Wanberg, 1997), all items reflect active rather than proactive searching (e.g., “Focus my time and energy on job search activities.”). In order to partial out the future component of proactivity, we examine the role of proactivity measures while controlling for related self-regulatory concepts that do not include a future component (i.e., self-control and/or conscientiousness in Study 1 and 2; no such measure was available in Study 3).

## Study 1

The first study is part of a larger project that examined future plans of VET graduates in the Netherlands. Given the high likelihood for vocational graduates to continue their education instead of entering the labor market (Statistics Netherlands, 2010) – we investigated general future goals related to someone’s working or education plans. Related to the idea that proactive individuals work harder and fare better, we hypothesized that proactivity is positively related to efforts toward and achievement of future goals. Building on the notion that proactive individuals start faster, we examined whether proactivity is especially predictive of goal-related effort if the goal is temporally more distant. This would suggest that proactivity is related to starting faster *in anticipation of future events*, the latter aspect indicating the “pro” component of proactivity. For exploratory purposes, we considered whether proactive individuals reported higher future goal clarity, which would be an additional benefit of earlier and higher goal-related effort, and which is known to predict future goal success (Wanberg, Hough, & Song, 2002; Zikic & Saks, 2009).

## Methods

### *Participants and procedure*

Participants were students in their final year of VET in the Netherlands. The prospective graduates participated in a cluster randomized trial investigating the effects of a training program that aimed to improve the school-to-work transition. For the current paper, only respondents of the control group are included in the analyses to disregard possible intervention effects. Approximately four months before graduation, students were asked to fill out a questionnaire about their proactivity and future goals (T1). One month later, students reported on the progress they had made with regard to their future goals (T2). We used T1 proactivity and T2 goal-related variables in the analyses. 244 students completed the first wave, while 174 completed the second wave; yielding a response rate of 71.3%. As we focused on the future goals of prospective graduates, students who did not plan to graduate by the end of the year were excluded ( $n = 15$ ). The average age of the remaining 229 students was 20.18 ( $SD = 2.58$ ), 57.6% was female, and 31.8% was a first- or second generation immigrant.

Students were asked to write down what they wanted to achieve in 1) three to six months and 2) six to twelve months. Given that most students would graduate within six months, 3-6 months goals generally related to their graduation (e.g., making sure I pass for the math test; finishing my internship), while 6-12 months goals related to their plans after graduation (e.g., deciding on the educational program I want to do next; getting a job). During the second wave, the computer screen showed students the goals they had written down in the first questionnaire, after which goal clarity, effort, and achievement were assessed.

### *Measures*

*Future goal clarity* was measured on a 5-point scale (1 = not at all clear, 5 = very clear) with the items “How clear is it for you *what* you want to achieve in the next [3-6 / 6-12] months?” and “How clear is it for you *how* you can best achieve this goal?”. Because these two items were strongly correlated for both short-term and long-term goals, ( $r = .81$  and  $r = .88$ , respectively), the two items were combined into one scale assessing goal clarity.

*Effort toward future goal* was measured on a 5-point scale (1 = very little, 5 = very much) with the item “During the past month, how much have you worked on your [3-6 / 6-12] month goal?”.

*Achievement of future goal* was measured on an 11-point scale (0 = very far away from my goal, 9 = very close to my goal, 10 = goal achieved) with the item “Indicate where you are in relation to your [3-6 / 6-12] month goal”.

*Proactive coping* was measured with the Proactive Coping Skills questionnaire (Bode, de Ridder, Kuijer, & Bensing, 2007). This measure assesses individuals’ competency of proactive coping according to the behavioral model of proactivity (Aspinwall and Taylor, 1997). Reliability is considered good with a Cronbach’s alpha ranging from .83 to .95, a split-half reliability ranging from  $r = .66$  to  $r = .87$  and a test-retest reliability of

$r = .63$  to  $.72$  over a 3-month period (Bode, Thoolen, & de Ridder, 2008). The 21 items were rated on a five-point scale (1 = completely disagree, 5 = completely agree). Example items are “I am good at looking ahead” and “I am good at seeing opportunities”. Cronbach’s alpha in the current study was  $.86$ .

*Expected time of graduation* was measured to assess the temporal distance of students’ future goals. A higher time of graduation, assessed as the month students expected to graduate in, indicates that the expected month of graduation is temporally more distant.

*Conscientiousness* was measured with a subscale of an instrument to measure the Big Five personality traits (Quick Big Five; Vermulst & Gerris, 2005). Six items were rated on a 7-point scale (1 = completely disagree, 7 = completely agree). A sample item is “I am precise”. Cronbach’s alpha of  $.86$  indicates satisfactory internal consistency.<sup>1</sup>

### *Analyses*

To assess the relation between T1 proactive coping and T2 goals, Ordinary Least Squares regression analyses were performed with future goal clarity, future goal-related effort, and future goal achievement as dependent variables. Analyses controlled for conscientiousness to assess the contribution of proactive skills beyond general self-regulatory skills. To assess whether temporal distance of students’ graduation affected the relation between proactive coping and future goals, we added an interaction term of the graduation date and proactive coping. The significant interaction effect was inspected through post-hoc probing (Holmbeck, 2002). Analyses were performed in Mplus 7.0 and were run with Full Information Maximum Likelihood (FIML) to incorporate cases that were missing at the second wave.

A comparison between those who were absent and present during the second wave shows that missingness was not related to proactive coping, conscientiousness or any of the measures of (short-term and long-term) future goal clarity, effort, and achievement ( $ts < 1.37$ ,  $ps > .173$ ). However, those who were absent during the second wave anticipated to graduate sooner ( $M = 5.58$ ,  $SD = 1.83$ ) than those who participated in the second wave ( $M = 6.23$ ,  $SD = 1.68$ ),  $t(227) = 2.55$ ,  $p = .012$ ,  $d = .37$ ).

### *Results*

Correlations between the study variables indicate that proactive coping was positively related to future goal clarity, goal-related effort, and goal achievement (see Table 6.2). The multivariate analyses show that these relations generally remained significant after controlling for conscientiousness (see Table 6.3). Specifically, higher proactive coping was related to more effort in one’s long-term goals, better achievement in one’s short-

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<sup>1</sup> Confirmatory Factor Analysis was performed to examine whether conscientiousness and proactive coping constitute different constructs. A significant improvement of model fit when two factors were estimated instead of one ( $\chi^2(1) = 601.26$ ,  $p < .001$ ) as well as no cross-loadings above  $.40$  indicated that conscientiousness and proactive coping were distinct constructs.

term and long-term goals, and more clarity about one's short-term and long-term goals. Hence, the first hypothesis was supported.

We additionally examined whether proactivity was especially predictive of effort in one's future goals if the future (i.e., the graduation date) was temporally more distant. For short-term goal-effort, the hypothesized interaction-effect was significant. We observed a general tendency to put less effort in goals when graduation time was temporally more distant ( $B = -.09$ ,  $t = -2.12$ ,  $p = .034$ ). In line with the second hypothesis, this relation was moderated by proactive coping skills ( $B = .13$ ,  $t = 1.97$ ,  $p = .048$ ). As can be seen in Figure 6.1, those with low proactive coping skills put less effort in goals when graduation was temporally more distant ( $B = -.16$ ,  $t = -3.06$ ,  $p = .002$ ); in contrast, this effect was nonsignificant for highly proactive copers ( $B = -.05$ ,  $t = -1.16$ ,  $p = .245$ ). Disregarding the time until goals become salient makes proactive copers start faster with working toward their goals. Results are shown for the analyses with T2 goal-related effort, but analyses with T1 effort as dependent variable show similar results. Higher efforts among proactive graduates when graduation is temporally more distant was only found for short-term goal effort; not for long-term goal effort. Hence, the second hypothesis was partly supported.

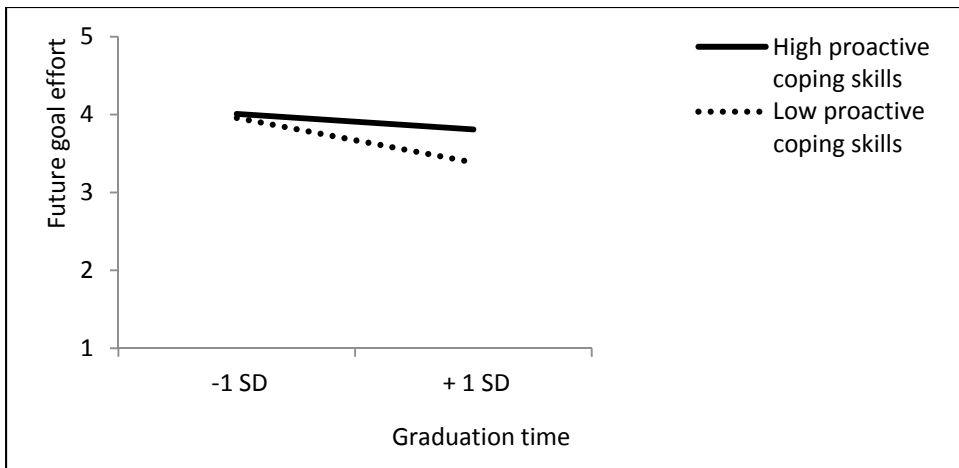


Figure 6.1 Moderating role proactive coping skills on relation between graduation time and future goal effort (Study 1)

Table 6.2 Descriptive statistics and bivariate correlations of Study 1 variables

	<i>M</i>	<i>SD</i>	2	3	4	5	6	7	8	9
1 T1 Proactive coping	3.78	0.41	-.00	.44***	.22**	.18*	.25**	.31***	.25**	.23**
2 T1 Month of graduation	6.06	1.75		-.07	-.02	-.17*	-.14	.09	-.11	-.04
3 T1 Conscientiousness	4.84	1.14			.06	.12	.18*	.05	.04	.11
4 T2 Short-term goal clarity	3.99	0.85				.42***	.44***	.80***	.15	.29***
5 T2 Short-term goal effort	3.65	0.89				.43***	.32***	.57***	.26***	.26***
6 T2 Short-term goal achievement	6.85	1.62					.52***	.26***	.25**	.44***
7 T2 Long-term goal clarity	3.91	0.81						.25**	.49***	.49***
8 T2 Long-term goal effort	3.44	0.84								1
9 T2 Long-term goal achievement	6.57	1.60								

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

Table 6.3 The relation between T1 proactive coping and T2 goal-clarity, goal effort, and goal achievement (Study 1,  $N = 229$ )

	Short term goals			Long term goals		
	Clarity	Effort	Achievement	Clarity	Effort	Achievement
Conscientiousness	<i>b</i>	<i>SE</i>	<i>b</i>	<i>b</i>	<i>SE</i>	<i>b</i>
	-.02	.06	.13	-.05	.05	-.07
Proactive coping skills	.47**	.17	.30	.19	.86***	.27
R <sup>2</sup>	.05	.03	.07	.10	.62***	.16
					.07	.05

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



*Summary and transition to Study 2*

In the first study, we replicated previous research on the importance of proactivity in career-related behavior. More specifically, higher levels of proactive coping were related to a better sense of one's future goals, more active effort toward, and better achievement of those goals. In line with the idea that proactivity is especially important when the future is taken into account, we found that proactivity was related to more effort in long-term goals in general and to effort in short-term goals to the extent that short-term goals were temporally more distant. Thus, proactive persons do not only work harder and fare better; they also start faster.

The second study builds on these findings and improves upon some limitations of the first study. Specifically, while proactivity was assessed with one scale in the first study, the second study includes measures of proactive personality, proactive coping, and proactive behaviors. Moreover, the first study was based on students' perceived achievement, while the second study uses a more objective measure of success. Finally, although we incorporated a measure of anticipation of the future, the measure of expected time of graduation is only an indirect indication of the mechanism. The second study assesses specific potentially stressful and beneficial events to shed more light on proactivity in relation to the future.

## Study 2

The second study examined through which mechanisms proactivity affects the job search process. Like Study 1, Study 2 tested the hypothesis that proactive persons work harder (i.e., search more intensively) and fare better (i.e., receive more job offers). It also investigates whether the effect of proactivity in the job search process is especially evident when the future is taken into account. One relevant obstacle among job seekers, especially those in the school-to-work transition, is anticipated discrimination (Kalter & Kogan, 2006; Pascoe & Smart Richman, 2009). Aspinwall and Taylor (1997) predicted that more anticipated impact of an obstacle on personally relevant goals is related to more adequate action to control the threat among those who cope more proactively. One way for job seekers to mitigate the potential impact of discrimination is to search more intensively and effectively. Effective job searching could be achieved by preparing better before applying for jobs; a concept we call proactive job applying. Based on the notion that proactive individuals may put more effort in mitigating the impact of potential obstacles, we hypothesized that anticipated discrimination is more strongly related to job search behavior and proactive job applying to the extent that job seekers are proactive.

Unlike Aspinwall and Taylor (1997), we also considered potentially beneficial events. First, the majority of jobs are found through a job application (e.g., Flap & Boxman, 2001). Hence, applying for jobs is a crucial series of events for job seekers. In addition, previous research has shown the importance of network building among employees (Thompson, 2005) and job seekers (van Hove et al., 2009). One reason why

social networks are important is their provision of information on job leads (Lin, 2001). Applying Aspinwall & Taylor's (1997) concept of resource accumulation, we examined whether those who cope more proactively in general also act more proactively when engaging in these opportunities (i.e., whether they apply and network more proactively). Following the idea that these accumulated resources help to control obstacles (Aspinwall & Taylor, 1997), we examined whether accumulating resources through proactively engaging in opportunities helps to optimize their pay-off. More specifically, we predicted that the relation between network building and the number of applications (i.e., the ability to obtain information about vacancies through networking) is stronger the more someone networks proactively. Also, we predicted that the relation between the number of job applications and the number of job offers (i.e., the ability to seal the deal) is stronger the more someone applies proactively.

## Methods

### *Participants and procedure*

Data were collected as part of the School2Work project, which examined the transition from VET to the labor market in the Netherlands. From the original School2Work sample, classes with a relatively large proportion of graduates who intended to enter the labor market (as opposed to continue their education) and who expected to graduate by summer, 2012, were invited for an additional study on proactivity. Career counselors decided whether or not to participate with their class. Students filled out a questionnaire before and after participating in two sessions on how to proactively prepare for the job search process. For the present study, only the first questionnaire was used, so that students' answers were not affected by these sessions.

Fifty-two out of 118 students planned on entering the labor market. However, as students' anticipated discrimination, conscientiousness, and self-control were measured in an earlier questionnaire, only students who filled out both the overarching School2Work questionnaire and the first wave of this subproject were included. Hence, the final sample consisted of 39 students with an average age of 21.92 ( $SD = 4.54$ ). 66.7% was female, while 38.4% was a first- or second generation immigrant.

We acknowledge that the sample is small, which may cause power problems when testing for both direct and interactive effects (McClelland & Judd, 1993). Given the lower power for significance testing, we also report findings that are significant at the  $\alpha = .10$  level. The dataset is nevertheless noteworthy because it enables to test relations of both the dispositional view on proactivity (i.e., proactive personality measure) and the behavioral approach to proactivity (i.e., proactive coping measure). Moreover, it includes domain-specific measures of proactivity (i.e., proactive networking and proactive job applying) and relevant obstacles and opportunities that may activate proactivity (i.e., anticipated discrimination, networking events, and job applications). However, we realize that caution is needed when interpreting and generalizing the findings from this small dataset.

## Measures

*Proactive personality* was measured with the 10-item Proactive Personality Scale (Bateman & Crant, 1993). Students answered on a 7-point scale (1 = completely disagree, 7 = completely agree). An example item is “I am constantly on the lookout for new ways to improve my life”. Cronbach’s alpha was .82.

*Proactive coping* was measured with the 21-item Proactive Coping Skills questionnaire, like in Study 1 (Bode et al., 2007). Students were asked how good they were at each of the coping skills. To create coherence with the other scales, we used a 7-point scale (1 = very bad, 7 = very good). Cronbach’s alpha was .94.

*Proactive networking* was assessed to examine what students do before they go to a networking occasion. We asked students their agreement to four items, introduced by the sentence “Imagine you go to an event with many people you don’t know. For example, a job fair, an open day, or another network event. How do you prepare yourself?”. Items read: 1) I think in advance about which people I want to talk to. 2) I think in advance about which clothes I will wear. 3) I think in advance about what I will tell about myself. 4) I think in advance about what I want to ask other people. Students’ agreement was assessed on a 7-point scale (1 = completely disagree, 7 = completely agree). Cronbach’s alpha was .85.

*Proactive job applying* was assessed to examine what students do before they apply for a job. We asked students their agreement to four items, introduced by the sentence “Imagine you found an interesting vacancy. How are you going to apply?”. Items read: 1) Before I send my application letter, I ask someone to check it. 2) Before I go to a job interview, I think in advance about what I want to ask. 3) Before I go to a job interview, I think in advance about what I want to tell about myself. 4) Before I go to a job interview, I think in advance about which clothes I will wear. Students’ agreement was assessed on a 7-point scale (1 = completely disagree, 7 = completely agree). Cronbach’s alpha was .63.

*Anticipated discrimination* was indicated through the statement “Because of my ethnic background, my chances on a job are...”. Answer categories ranged from 1 (“a lot less than others”) to 7 (“a lot more than others”). Scores were reversed so that higher scores indicate more anticipated negative discrimination.

*Job search behavior* was assessed with five items that Blau (1994) refers to as preparatory job search behavior. Students were asked how often they engaged in a list of activities in the past three months. An example activity is “searching and reading vacancies on the internet”. Cronbach’s alpha was .70.

*Network building* was assessed with four items that asked how often students had engaged in activities that would make their network larger. Items were introduced by “In the past three months, how often have you, in relation to your education or work, made an effort to...”. Items read 1) make contact with new people, 2) visit places where you can meet new people, 3) purposively approach people you didn’t know, 4) enlarge your network?. Cronbach’s alpha was .92.

*Number of job applications* was measured with the question how often they had applied (through letter, internet or phone). Five categories ranged from ‘Never’ to ‘> 10 times’.

*Number of job offers* was measured with the question how often they had received a job offer. Five categories ranged from ‘Never’ to ‘> 10 times’.

*Conscientiousness* was measured with the Quick Big Five, like in Study 1 (Vermulst & Gerris, 2005). Cronbach’s alpha was .79.

*Self-control* was assessed with the 13-item Brief Self-Control Scale (Tangney, Baumeister, & Boone, 2004). This scale combines people’s ability to inhibit inner responses and to initiate action. An example is “Sometimes I can’t stop myself from doing something, even if I know it is wrong” (reversed). Items were rated on a scale from 1 ‘Completely disagree’ to 7 ‘Completely agree’. Cronbach’s alpha was .75.<sup>1</sup>

### *Analyses*

To assess the relation between proactivity indicators and job search indicators, regression analyses were performed. Ordinary Least Squares regression was used for the continuous outcome variables. Given the non-normal distribution of the count variables (i.e., number of job applications and number of job offers), Generalized Linear Models were performed with a correction for the overdispersion (e.g., Gardner, Mulvey, & Shaw, 1995). In order to disentangle the contribution of proactivity from general self-regulatory competence, analyses were controlled for conscientiousness and self-control. Separate models for the moderation analyses between proactivity indicators and measures of obstacles and opportunities (i.e., anticipated discrimination, network building, and job applying) were performed with interaction terms of the variables. Significant interaction effects were inspected through post-hoc probing (Holmbeck, 2002).

### *Results*

Correlations between the study variables are shown in Table 6.4. Multivariate analyses, controlling for self-control and conscientiousness and accounting for the

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<sup>1</sup> Confirmatory Factor Analyses were performed to examine whether proactive personality and proactive coping were different constructs from self-control and conscientiousness. Due to the small sample size, this was tested on the entire sample ( $n = 118$ ), including those who intended to continue their education. Separate models showed that model fit improved when proactive coping was distinguished from conscientiousness ( $(\chi^2(1) = 125.76, p < .001)$ ), and from self-control ( $(\chi^2(1) = 158.76, p < .001)$ ). Also, model fit improved significantly when proactive personality was distinguished from conscientiousness ( $(\chi^2(1) = 129.41, p < .001)$ ), and from self-control ( $(\chi^2(1) = 152.08, p < .001)$ ). Moreover, there were no cross-loadings above .40. Hence, self-control and conscientiousness were separate constructs from proactive personality and proactive coping. Self-control and conscientiousness were also distinct constructs ( $\chi(1) = 65.11, p < .001$ ).

Table 6.4 Descriptive statistics and bivariate correlations of Study 2 variables

	<i>M</i>	<i>SD</i>	2	3	4	5	6	7	8	9	10	11	
1 Proactive personality	4.87	0.72	.70***	.33*	.33*	-.09	.37*	.31*	.18	.12	.32†	.25	
2 Proactive coping	5.23	0.76		.24	.35*	.06	.26	.03	.20	.23	.29†	.24	
3 Proactive network building	5.10	1.08			.17	-.19	.17	.13	-.19	-.03	.38*	.14	
4 Proactive job applying	5.71	0.80				-.09	.10	.10	.16	.18	.01	-.00	
5 Anticipated discrimination	3.67	1.06					-.18	.22	.08	-.10	-.03	-.32†	
6 Network building	2.23	1.01						-.01	-.21	.15	.38*	.56***	
7 Conscientiousness	5.18	0.91							.18	-.08	-.06	-.10	
8 Self-control	4.36	0.74								.20	.01	.09	
9 Job search behavior	2.16	0.71									.42**	.20	
10 Job applications	1.79	1.14										.20	
11 Job offers	1.47	0.56											1

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

non-normal nature of the count variables, show that a proactive personality and proactive coping skills were not related to job search behavior (see Table 6.5). However, the number of job applications was higher among those with a more proactive personality and with more proactive coping skills. Also, a more proactive personality was related to a higher number of job offers. Hence, there is some evidence that general measures of proactivity relate to working harder (in terms of job applications) and faring better (in terms of job offers).

The second question was whether proactivity is especially related to the job search process when a potential future obstacle is taken into account. This appears to be the case: The relation between anticipated discrimination on the one hand and job search behavior and proactive job applying on the other hand depended on job seekers proactivity (i.e., proactive personality and proactive coping skills) (see Table 6.6). Although Figure 6.2 illustrates this for proactive personality and job searching, post-hoc probing of all four significant interaction effects consistently reveals that anticipated discrimination is an obstacle that those high on proactive personality and skills approach with more intensive job searching and proactive job applying compared to their non-proactive counterparts. This pattern, which shows that proactivity becomes salient when acting in anticipation of a future obstacle, is in line with our second hypothesis.

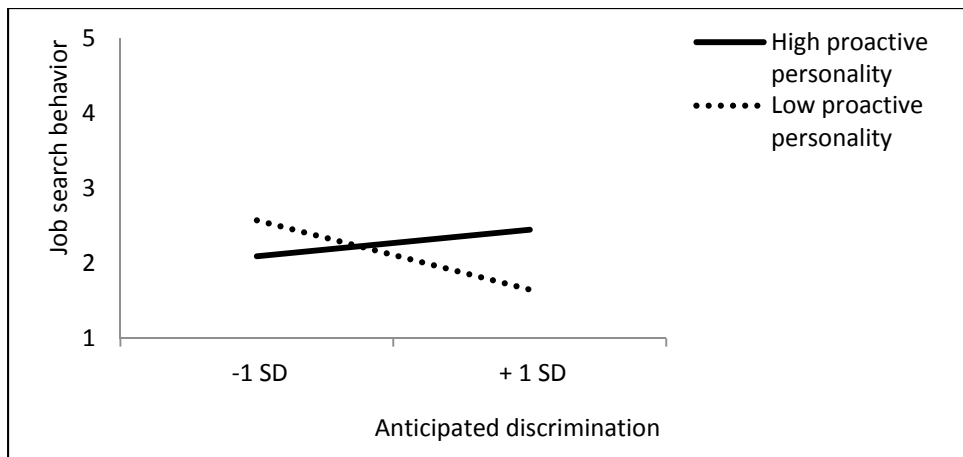


Figure 6.2 Moderating role proactive personality on relation between anticipated discrimination and job search behavior (Study 2)

Note: Pattern is similar when proactive coping skills is used as a moderator and when proactive job applying is used as an outcome variable.

Table 6.5 The relation between proactivity indicators and job search indicators (Study 2, N= 39)

	Job search behavior		Job applications		Job offers		Proactive network building		Proactive job applying	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Proactive personality	.14	.12	.64*	.26	.25*	.13	.50*	.23	.35†	.19
Proactive coping	.12	.12	.50*	.25	.19	.12	.39†	.21	.34*	.17
Proactive network building	.16	.12	.47**	.17	.11	.09				
Proactive job applying	.14	.12	.01	.23	-.01	.11				

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

Note: Each proactivity indicator is tested in a separate model.

All analyses were controlled for students' conscientiousness and self-control.

Table 6.6 The moderating role of anticipated discrimination in the relation between proactivity indicators and job search behavior (Study 2, N=39)

	Proactive network building		Proactive job applying		Job search behavior	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Proactive personality	.32†	.17	.30*	.14	.14	.12
Anticipated discrimination	-.15	.16	-.09	.13	-.08	.12
Proactive personality * Anticipated discrimination	-.06	.21	.34*	.17	.32*	.15
<i>R</i> <sup>2</sup>	.08		.10		.06	
Proactive coping	.32*	.15	.26*	.13	.13	.11
Anticipated discrimination	-.24	.16	-.10	.13	-.06	.11
Proactive coping * Anticipated discrimination	-.27†	.16	.21†	.13	.27*	.11
<i>R</i> <sup>2</sup>	.15		.10		.12	

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

Note: The interaction effects were tested in separate models.

Analyses were controlled for students' conscientiousness and self-control.

Those with more proactive coping skills were less likely (at the  $\alpha = .10$  level) to engage in proactive networking when they anticipated more discrimination. The post-hoc explanation that those who anticipate more discrimination may feel less comfortable networking received some support by a significant correlation between anticipated discrimination and a measure of networking comfort ( $r = -.37, p = .013$ )<sup>1</sup>.

The third question was whether proactivity is related to potentially beneficial events in the job search process. First, those who cope more proactively in general (indicated by a proactive personality and proactive coping skills) were more likely to network proactively and to apply for a job proactively (see Table 6.5). In addition, the two predicted interaction effects were observed. In particular, the relation between network building and the number of job applications was significantly more positive the more students networked proactively ( $b = .41, t = 6.20, p = .013$ ; see also Figure 6.3). Similarly, the relation between the number of job applications and the number of job offers was significantly more positive the more students applied proactively ( $b = .20, t = 6.85, p = .009$ ; see also Figure 6.4).

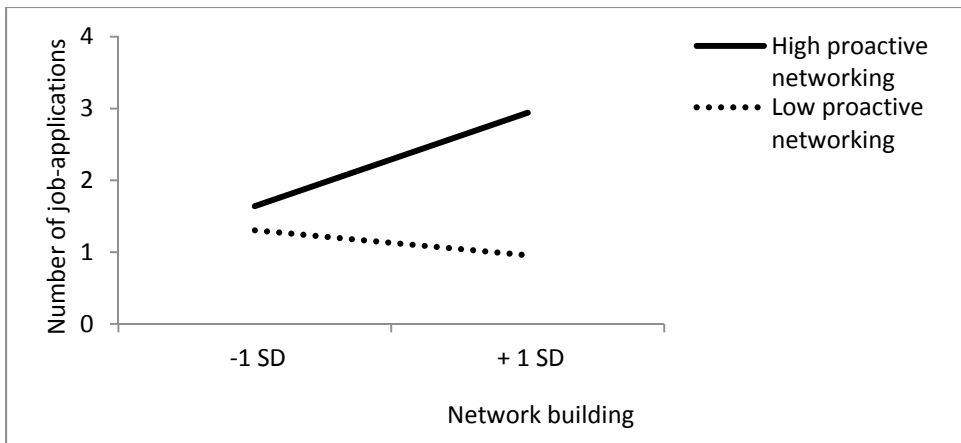


Figure 6.3 Moderating role proactive network building on relation between network building and number of job applications (Study 2)

<sup>1</sup> Networking comfort was assessed with a four-item index, based on the measure developed by Wanberg, Kanfer, and Banas (2000). Respondents indicated on how difficult (1 = very difficult, 7 = very easy) they found it to ask others for help when searching for a job. Four groups were distinguished: asking help from friends, family, colleagues or people from their internship, and others in their social network. Answers across these four groups were combined; Cronbach's alpha was .80.



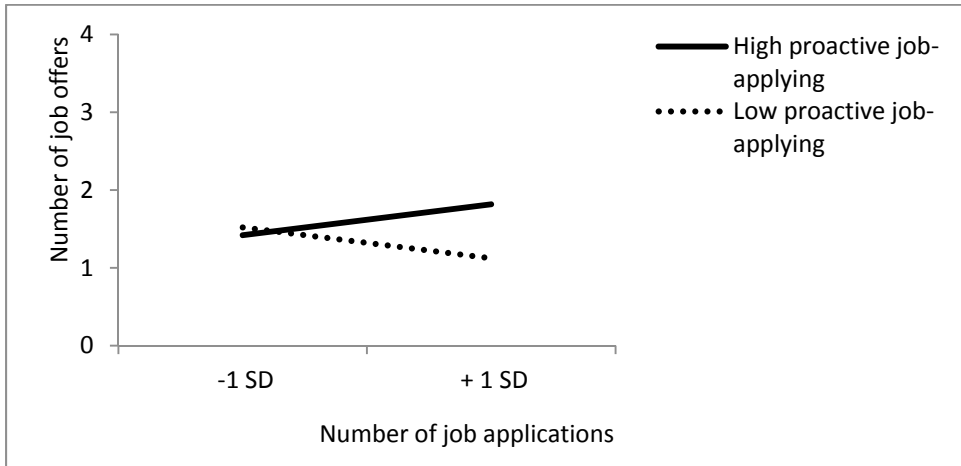


Figure 6.4 Moderating role proactive job applying on relation between number of job applications and number of job offers (Study 2)

### Summary and transition to Study 3

The second study shed light on the job search process in several ways. First, it replicated previous research showing that proactivity is related to working harder and faring better in the job search process. In addition, the current study added a future component that showed that proactivity is especially beneficial in anticipation of a stressful event: Those who expected to have smaller job chances due to their ethnic background engaged in more proactive job applying and more job search behavior if they had a general proactive personality or better proactive coping skills. Finally, proactive job search measures shed light on the role of proactivity in the job search process. Graduates who engaged more in network building also applied more frequently, presumably because of the information they acquired through networking. This is especially the case if they networked proactively. Hence, those who come to a network event prepared benefit more. In a similar vein, those who applied for a job while they engaged in more proactive job applying were more likely to transform a job application into a job offer.

Despite a small sample size and general difficulties with detecting interaction-effects (McClelland & Judd, 1993), we found consistent support for the “pro” component of proactivity in job searching. In the second study, however, we did not consider longitudinal effects of proactivity and only provided indirect evidence for the idea that discrimination effects can be reduced through proactivity. In the third study, we examine the role of proactivity on employment and discrimination in a large, longitudinal sample over a ten-year span.

### Study 3

In the third study, we studied the long-term effects of proactivity in the job search process. First, we considered whether proactive coping skills at age 18 predict employment chances at age 28. In addition, building on the second study that found that proactive individuals act stronger when discrimination is anticipated (i.e., more job searching, more proactive applying), Study 3 examined whether proactivity helps to reduce that stressor (i.e., actually perceived discrimination). Specifically, we hypothesized that the positive relation between anticipated career-related discrimination at age 18 and experienced career-related discrimination at age 28 is weaker to the extent that respondents reported proactive coping skills at age 18. In terms of the behavioral model of proactivity (Aspinwall & Taylor, 1997), the third study allowed us to consider whether having accumulated proactive coping skills (i.e., stage 1) increases the chance that those individuals who anticipated discrimination when searching for employment (i.e., stages 2 and 3) reflect on the actual discrimination and conclude that they were able to cope with this threat effectively after they are employed (i.e., stage 5).

#### Methods

##### *Participants and procedure*

Data were used from the Maryland Adolescent Development In Context (MADIC) Study (Eccles, Early, Frasier, Belansky, & McCarthy, 1977; Peck, Roeser, Zarrett, & Eccles, 2008; Wong, Eccles, & Sameroff, 2003; see also [www.rcgd.isr.umich.edu/pgc](http://www.rcgd.isr.umich.edu/pgc) for full details). This ongoing data collection has followed seventh graders repeatedly into adulthood. Its main purpose was to examine the role of context and personal psychology on individuals and their pathways through adolescence and early adulthood. The sample was drawn from a county near Washington D.C. in the USA that includes low income, high risk urban neighborhoods; middle class suburban neighborhoods; and rural, farm-based neighborhoods. The sample is broadly representative of different SES levels. Unlike most mixed race counties in the USA, the distribution of family income and parents' education was as equivalent as possible, given the nature of race differences in the USA, between the African American and the European American participants.

The current study used data from the fifth wave (1998; one year after high-school, mean age = 18.70) to assess proactive coping skills and anticipated discrimination. Employment indicators and actual career-related discrimination were assessed at the seventh wave (ten years later). From the 830 adolescents who reported on proactive coping skills and anticipated discrimination at the fifth wave, 470 participated at the seventh wave, yielding a response rate of 56.6%. 64.7% of these 470 participants were female; 47.8% described their race/ethnicity as African American or Black; 44.3% as European American, and 7.9% used another category.

### Measures

*Proactive coping* (at age 18) was measured with items assessing how often respondents engage in certain coping strategies. These coping strategies are similar to those used in the proactive coping scale in Studies 1 and 2. Table S6.1 lists the 15 items that were developed by the MADICS researchers (Gender and Achievement Research Program, 2013). Exploratory Factor Analysis was performed to assess whether the scale was one-dimensional. Based on a non-significant improvement of the model fit when specifying two rather than one factor ( $\chi(14) = 16.43$ ,  $p = .288$ ) and no improvement of other model fit indices, we concluded that the items represent one construct. Model fit indices suggest acceptable model fit (RMSEA = .06, CFI = .91, TLI = .90, SRMR = .05) and the internal consistency is high, as indicated by a Cronbach's alpha of .89.

*Anticipated discrimination* (at age 18) was assessed with the question "How much do you think discrimination because of your race might keep you from getting the job you want?". Answer categories ranged from 1 (not at all) to 5 (a lot).

*Experienced discrimination* (at age 28) was assessed with the question "How much do you think discrimination because of your race/ethnicity has kept you from advancing your career?". Again, answer categories ranged from 1 (not at all) to 5 (a lot). Results of analyses involving this variable were stable across inclusion or exclusion of the respective racial/ethnic groups (African American, European American, Else).

*Employment status* was constructed by marking those who indicated they worked full-time or part-time as employed, and those who were "unemployed, but looking for work" as unemployed. Fifty respondents who were excluded from analyses involving this variable indicated they were, for example, full-time student, self-employed, or temporarily laid-off.

*Salary* was assessed as the weekly amount of dollars earned in respondents' most recent job. 297 reported their salary; three outliers (3 SD above the mean) were removed.

*Job satisfaction* was assessed with the item "I am satisfied with my current employment". Answer categories ranged from 1 (strongly disagree) to 5 (strongly agree). 346 of 372 employed respondents reported their job satisfaction.

### Analyses

Binary logistic regression analysis was performed to inspect the relation between proactive coping skills and employment status. Ordinary Least Squares regression analyses were performed for job satisfaction and salary. To inspect the moderating role of proactive coping skills on the relation between anticipated and experienced discrimination, Ordinary Least Squares regression analysis was performed with an interaction term of anticipated discrimination and proactive coping skills. The significant interaction effect was inspected through post-hoc probing (Holmbeck, 2002).

A comparison between those who were absent and present during the second wave shows that participation was not related to proactive coping skills ( $t = .42, p = .678$ ), but those who did not participate anticipated higher levels of discrimination ( $M = 2.15, SD = 1.09$ ) compared to those who participated ( $M = 1.85, SD = 1.00$ ),  $t(828) = 4.08, p < .001, d = .29$ ). This difference is in part explained by the fact that respondents identifying as African American (48%) were less likely to participate in the second wave than those who identifying as European American (70%) or else (62%),  $\chi^2(2, n = 824) = 37.39, p < .001$ .

Table 6.7 Descriptive statistics and bivariate correlations of Study 3 variables

	<i>M</i>	<i>SD</i>	2	3	4	5	6
1 Proactive coping	3.74	0.63	-.05	-.02	.13**	.15**	.11*
2 Anticipated discrimination	1.85	1.00		.42***	-.06	-.03	-.06
3 Experienced discrimination	1.79	1.04			-.19***	-.04	-.20***
4 Employment status	0.89	0.32				1	1
5 Salary	733.78	447.46					.11†
6 Job satisfaction	3.70	1.15					1

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

### Results

Table 6.7 presents descriptive statistics and bivariate correlations of the Study 3 variables. Regression analyses indicate that proactive coping skills were positively related to the likelihood of being employed at age 28 ( $b = .61, OR = 1.84, t = 6.96, p = .008$ ). For those who were employed, proactive coping skills were positively related to salary ( $b = 110.95, t = 2.67, p = .008$ ) and job satisfaction ( $b = .20, t = 2.01, p = .045$ ). Proactive coping skills remain similarly predictive of these employment indicators when we controlled for respondent's gender, age, and race/ethnicity. Hence, those with more proactive skills at age 18 fared better in terms of employment chances at age 28.

The second question was whether proactivity can buffer the extent to which people experience discrimination. In general, those who anticipated more career-related discrimination at age 18 also experienced more setbacks from career-related discrimination at age 28 ( $r = .42, p < .001$ ). Importantly, the relation between anticipated discrimination at age 18 and experienced discrimination at age 28 was significantly less strong the more proactive coping skills individuals had at age 18 ( $b = -.12, t = -2.79, p = .006$ ). Figure 6.5 shows that proactive coping skills reduced the substantial gap in experienced discrimination between those who expected little and those who expected more discrimination by more than 40% (estimated means among low proactive copers: 2.32 versus 1.24; estimated means among high proactive copers: 2.10 versus 1.47). In sum, proactivity appeared to buffer the extent to which people experience discrimination.

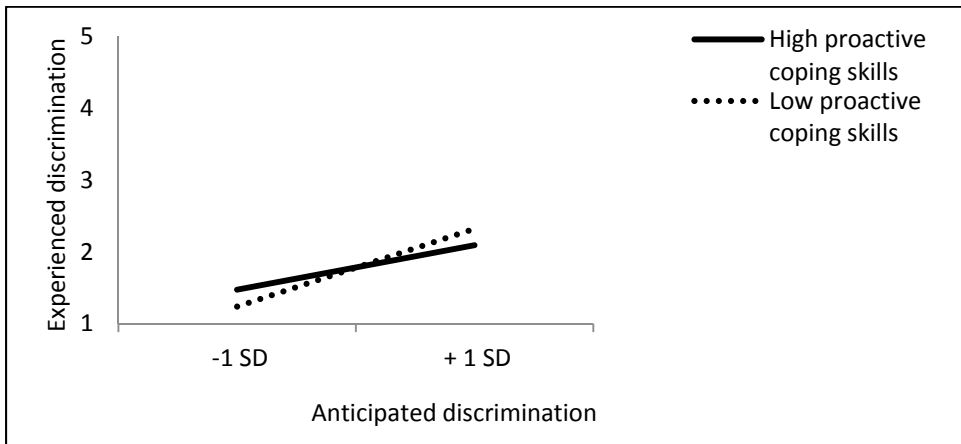


Figure 6.5 Moderating role proactive skills on relation between anticipated and experienced discrimination (Study 3)

### Discussion

Study 3 showed that proactive coping skills during adolescence are predictive of adult employment success in terms of the likelihood of being employed, salary, and job satisfaction. Again, proactivity was related to faring better. In addition, the extent to which anticipating racial discrimination was related to actually having experienced discrimination ten years later was substantially lower among those with more proactive coping skills. This finding provides additional evidence for the idea that proactive skills can influence the likelihood and impact of future events.

## General discussion

In the current paper, we aimed to shed light on the “pro” component of proactive career-related behaviors among labor market entrants. Following prior research, we showed that proactivity is related to working harder (i.e., more effort in long-term goals, Study 1; applying more frequently, Study 2) and faring better (i.e., more goal achievement, Study 1; receiving more job offers, Study 2; and lower unemployment chances, higher salary, more job satisfaction, Study 3). The “pro” component of proactivity was assessed with various assessments of the future-oriented behavior. First, when the future was temporally more distant (in terms of graduation date), people put more effort in goal achievement to the extent that they had proactive skills (Study 1). Second, anticipated discrimination led (only) proactive individuals to increase their job search behavior and to apply more proactively (Study 2). We also showed that proactive coping skills reduce the association between anticipated discrimination and the extent to which experienced discrimination actually reduced one’s job-related outcomes, thus suggesting that proactive coping skills can buffer the impact of anticipated discrimination on subsequent job outcomes (Study 3). Besides showing that

proactivity relates to stronger action toward the obstacle of discrimination, we showed that proactive job seekers also act stronger toward opportunities. Specifically, those who networked and applied for jobs proactively benefited more from engaging in these activities (Study 2). Hence, in addition to working harder and faring better, the current study provides empirical evidence that proactivity is related to starting faster and acting stronger.

### **The “pro” in proactivity**

The central contribution of the current paper is the identification of the “pro” components of proactivity. Even though prior studies on employees had identified active elements of proactivity, research that incorporated a specific focus on the future was lacking. The current paper examined two future considerations. First, the general inclination to invest less effort in future goals that are temporally more distant was less strong among proactive graduates (Study 1). This acting in anticipation of the future underlines the “pro” component of proactivity. Second, proactive graduates were more likely to respond to anticipated discrimination with increased job search intensity and proactive job applying (Study 2), while proactive graduates who anticipated discrimination were able to reduce actual discrimination by more than 40% (Study 3). These findings align with conceptual models of proactivity that argue that proactive people can influence their environment (Bateman & Crant, 1993) and that people can perceive threats as challenges instead (Schwarzer & Taubert, 2002).

Perhaps most concretely, the current study is the first to test distinct steps of the process model of proactivity (Aspinwall & Taylor, 1997). In support of this model, proactive people are more likely to accumulate resources to change the impact of anticipated obstacles (in terms of job search behavior and proactive job applying when discrimination is anticipated; Study 2), and they are more effective in reducing their impact (in terms of anticipated discrimination; Study 3). Although the process model focuses on potential obstacles, we extended its scope by showing that proactivity may work similarly in the face of opportunities. Specifically, proactive individuals accumulate resources to change the impact of anticipated opportunities (in terms of preparation for network events and job applications; Study 2) and they are more effective in optimizing their impact (in terms of deducing information from networking events and sealing the deal during job applications; Study 2).

The current paper also identified specific “active” components of proactivity among job seekers. Empirical studies among employees have provided a wide range of passive and active explanatory mechanisms for the relation between proactivity and career outcomes among employees (for overviews, see Parker et al., 2010; Parker & Collins, 2010), but research on job seekers was limited to the finding that proactivity relates to job search intensity (Brown et al., 2006; Hu & Gan, 2011). We showed that, in addition to job search intensity, proactive job seekers report more effort toward future goals (Study 1) and better preparation for network events and job applications

(Study 2). Hence, the current findings suggest that proactivity plays a role in different stages of the job search process.

### Implications and future directions

Based on our findings, we recommend that research and interventions extend their focus in several ways. First, we have provided evidence for the idea that proactive individuals fare better because they engage in both “active” and “proactive” behavior. This study is the first to examine patterns of starting faster and acting stronger, but more research is needed to replicate our findings with different future considerations (i.e., contexts, obstacles, and opportunities). We recommend that interventions programs that aim to improve proactivity go beyond merely activating individuals and consider the “pro” components of earlier, preventive and proactive goal-directed coping. Effective proactivity interventions that incorporated “pro” components have been developed in the domains of academic achievement (Kirby et al., 2002), designing the future in later adulthood (Bode et al., 2007) and coping with diabetes (Thoolen, de Ridder, Bensing, Gorter, & Rutten, 2009). In the current study, we also found that proactivity is not only beneficial to high-risk individuals who are likely to experience obstacles. Given that proactivity is also beneficial when anticipating other, more positive events (e.g., network events, job applications), the optimization of opportunities is another interesting direction for future research. Finally, the possibility to change the impact of both obstacles and opportunities makes proactivity training programs potentially worthwhile for a large population.

Our research has focused on labor market entrants, but the current findings seem relevant to research on employees as well. Although research among employees has shown that a proactive personality relates to more proactive work behavior, operationalized as the extent to which employees participate in proactive problem solving and proactive idea implementation (Parker, Williams, & Turner, 2006), research on employees may be inspired by the mechanisms identified in the current paper. For example, we provide evidence that context-specific measures of proactivity (e.g., proactive networking) explain who benefited more from engaging in these work-related behaviors. In a similar vein, it seems worthwhile to examine whether employees who engage in specific proactive work behaviors benefit more. Also, we showed that proactive people cope more effectively with anticipated events, both when these are potentially stressful and beneficial. Proactive employees may similarly be better at handling challenges like the anticipation of company bankruptcy, mass redundancies, or an upcoming vacancy in the Executive Board. Future studies could examine whether these results indeed generalize to other contexts and other, for example collectivistic, cultures.

Although the current paper focused on proactivity rather than on (anticipated) discrimination, our findings have implications with regard to coping with discrimination. Previous studies found inconsistent evidence for the role of discrimination of achievement. For example, Ogbu (1978, 1991) found that ethnic

minorities who anticipate discrimination are less likely to invest in their future, while Sanders (1997) found the opposite pattern. One explanation for these inconsistent findings might be respondents' proactive attitudes and skills. We found that people who anticipate discrimination and have the skills to cope proactively with this threat, are substantially less likely to actually experience the negative effects of discrimination on job outcomes. This suggests that people can undertake action to reduce the impact of discrimination. Two activities that may help in reducing its impact, and that proactive people who anticipated discrimination in our research engaged more in, are the intensity with which people search for employment and the extent to which they prepare themselves before applying for a job and going to a job interview. Future research could extend our findings by studying whether, and through which activities, proactive attitudes and skills can similarly influence the impact of discrimination in other domains, such as academic achievement.

### **Strengths and limitations**

The current paper on the “pro” component of proactivity benefited greatly from the school-to-work transition as study context. Because the prospective graduates in our samples were close to an important change in their life, orientation toward the future was salient. In addition, the upcoming transition into the labor market can be perceived as both a threat and a challenge, which made the school-to-work transition a natural context in which proactive coping with opportunities and obstacles could be studied (Crant, 2000).

It is also worthwhile to address the consistency of the findings. The hypotheses were tested using a mixture of general and context-specific measures of proactivity, a combination of general and proactive outcome measures, a focus on both the behavioral correlates of proactivity and its long-term effects, using both Dutch and American samples. Across these study characteristics, we found consistent support for the hypothesis that proactive individuals work harder, fare better, start faster, and act stronger toward the future.

One concern in the current paper is the use of self-report data, which is more likely to suffer from shared method variance. Although some measures would have benefited from other-report data (e.g., impression made while networking or applying for a job), other measures were explicitly chosen to assess respondents' own perception. For example, people act in anticipation to events, like discrimination, only to the extent that they themselves expect these events to have an impact. Moreover, it has been suggested that others are not sufficiently able to assess fine-grained differences, like whether or not someone thinks about questions before going to a networking event (Lance, LaPointe, Fiscaro, 1994). Finally, findings were consistent across more subjective and objective measures, the latter of which are less likely to suffer from common method variance (Trzesniewski et al., 2006).

The current paper has focused on positive correlates of proactivity, thereby disregarding possible adverse effects of proactivity. For example, it may be that



proactive individuals experience more stress about possible obstacles that interfere with their goals. Future research could examine less desirable correlates of proactivity, like neuroticism and job search stress (cf., Klehe, Zikic, van Vianen, Koen, Buyken, 2012).

## Conclusion

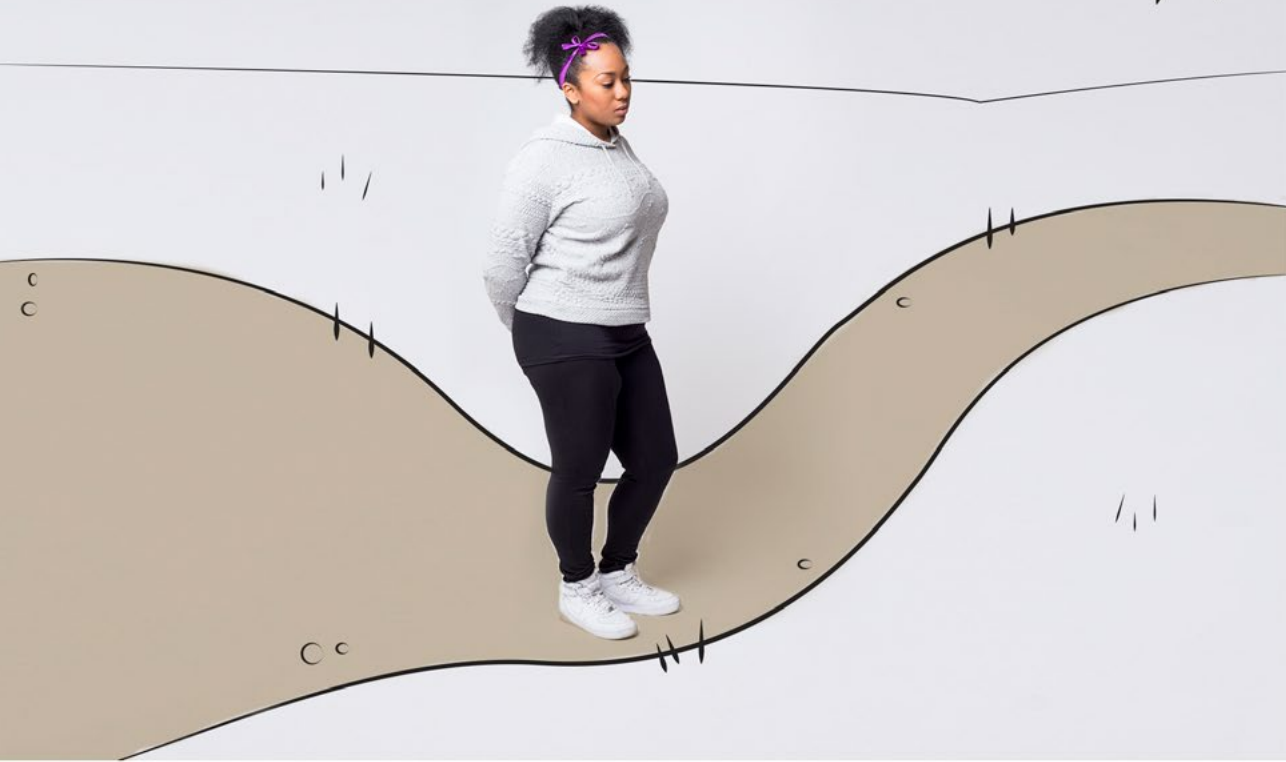
The construct of proactivity has yielded considerable research attention, but empirical studies were focused on the “active” component of proactivity. The current study considered the school-to-work transition to unravel “pro” and “active” components of proactivity and found that proactive graduates not only work harder and fare better; they also start faster and act stronger. With an eye on the challenges of today and the future (e.g., youth unemployment, economic and social globalization) the potential of proactive coping to help pave the way toward success in the face of obstacles and opportunities is promising.

## Supplementary material

*Table S6.1* Proactive coping items of Study 3

How often... (1 = Never, 5 = Almost always)

- do you feel that your past experiences have prepared you well for the future?
- are you very good at figuring out problems and planning how to solve them?
- do you feel like giving up quickly when things go wrong? (reversed)
- do you think that there are lots of ways around any problem?
- are you very good at carrying out the plans you make for solving problems?
- are you very good at bouncing back quickly from bad experiences?
- can you think of many ways to get the things in life that are most important to you?
- can you find a way to solve a problem, even when others get discouraged?
- are you good at learning from your mistakes?
- do you feel that, even when things get really tough, you never lose sight of your goals?
- can you think of many ways to get out of a jam?
- do you meet the goals that you set for yourself?
- do you give up easily when you meet difficult problems? (reversed)
- do you feel that you can make of your life pretty much what you want to make of it?
- do you like doing things that other people think can not be done?



# 7

## It wasn't sheer luck after all: Opportunity and preparation predict chance events in the job search process

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Both anecdotal and scientific evidence suggest that chance plays an important role in careers. Typically, people describe the role of chance events as if they were merely lucky when experiencing these events. Yet, the current paper proposed that individuals' opportunity and preparation helps explain the occurrence, perception, and selection of chance events. Study 1 used longitudinal data on 390 graduates who reported on the occurrence of chance events in their school-to-work transition. Supporting the notion that chance events do not occur randomly, job seekers who had prepared better for job searching and those with better opportunities (in terms of their social network) were more likely to have experienced chance events. Study 2 examined the perception and selection of chance events in a real yet controlled setting, as 67 applicants in a job interview process were exposed to the same ostensible chance events. Having created the same opportunities to experience chance, we found that better prepared job applicants were more likely to select these events. Instead of sheer luck, it seems that job seekers can foster the experience and capitalization of chance events.

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*“Luck is what happens when preparation meets opportunity.”* (Seneca, 4 BC - AD 65).

Receiving a job offer while talking to someone at the gym, seeing a job advertisement while browsing the newspaper for sports news, or meeting a prospective employer at a birthday party; these are examples of events that may contain an element of chance. Chance factors are defined as unplanned, unpredicted events that can potentially affect a person’s vocational choices, behaviors, and success (Bandura, 1982; Crites, 1969). Theoretical models on career development emphasize that chance plays a role in careers (Krumboltz, 2009; Pryor & Bright, 2003; Dew, 2009; Cunha, 2005; Denrell, Fang & Winter, 2003); empirical research corroborates that the majority of people indeed perceive chance to have played a role in their own careers (e.g., Bright, Pryor, & Harpham, 2005; Bright, Pryor, Wilkenfeld, & Earl, 2005; Bright, Pryor, Chan, & Rijanto, 2009; Hirschi, 2010). Clearly, chance events can be considered important contributors to career success.

Generally speaking, there are two reasons for individual differences in reports on chance events. The first is that people differ in their attribution of events, to either internal (e.g., effort) or external (e.g., chance) processes (Heider, 1958; Lefcourt, 1966). External attributors would then be more likely to report chance to have influenced their careers. Empirical work has shown that people’s locus of control, which gives an indication of people’s general attribution to internal or external factors, only explains a small portion of individual differences in chance events (Bright, Pryor, & Harpham, 2005; Bright et al., 2009; Hirschi, 2010). This suggests that there may not only be individual differences in the perception of chance events, but also in the likelihood of experiencing – and even capitalizing on – unexpected opportunities (e.g., Bandura, 1998; Graebner, 2004; Merton & Barber, 2004). Indeed, it was Seneca who already postulated that such ‘luck’ requires opportunity and preparation. In the current paper, we address whether job seeker’s opportunity and preparation for chance events helps explain individual differences in the experience and capitalization of chance events.

The contributions of the current paper are threefold. First, although theoretical work has acknowledged individual differences in people’s preparation and opportunities for chance events (e.g., Bandura, 1982; 1998), no quantitative studies have addressed their role in the experience of chance events. Second, process models suggest that the role of chance events is dependent on different phases – the occurrence, perception, and selection of chance events (e.g., Erdelez, 2004; Lawley & Tompkins, 2008; Makri & Blandford, 2012; Merton & Barber, 2004; Napolitano, 2013) – yet, previous work that considered people’s experience of chance events did not distinguish between these phases. Investigating chance events from a process perspective will allow to better determine whether individual differences in the experience of chance events relate to opportunity, preparation, or both. Third, previous research relied on self-reported data, in which respondents apply their own notion of what constitutes a chance event. Besides longitudinal self-reported data on the experience of chance events in the school-to-work transition (Study 1), we report on a

controlled research design in which all job applicants were exposed to the same ostensible chance events (Study 2). This way, individual differences in the experience and capitalization of chance events could be examined once occurrence of chance is controlled and, hence, once people's own notion of what they consider a chance event does not seem as relevant in this study. Together, the studies investigate opportunity and preparation differences in self-reported experience as well as observed capitalization of chance events.

### **The role of chance events in careers**

Various terminologies are employed in the research area of chance events. Terms that are used include chance (Roe & Baruch, 1967), happenstance (Miller, 1983; Mitchell, Levin & Krumboltz, 1999), fortuity (Bandura, 1998), synchronicity (Guindon & Hanna, 2002), and serendipity (Merton & Barber, 2004). Some of this work focuses on the unexpectedness of the event, while others also consider how this event links to inner thoughts or individual behavior. The common ground of these terminologies, which are used in chance models like Cognitive Information Processing Theory (Sampson, Lenz, Reardon, & Peterson, 1999), Chaos Theory of Careers (Pryor & Bright, 2003), and Happenstance Learning Theory (Krumboltz, 2009), is that chance events are unanticipated and potentially affect a person's vocational choices, behaviors, and success. We draw on all theoretical work that considers such events, but we use the term chance events in the current paper for reasons of consistency. However, we do not mean to explicitly distinguish chance events from happenstance, synchronicity, fortuitous or serendipitous events.

According to self-reported accounts of careers, chance events are indeed perceived to play a role in career decisions, behaviors, and success. Typically, more than 60% of respondents report chance events to have influenced their careers, which is true across different groups, including college students (Bright, Pryor, & Harpham; 2005; Bright, Pryor, Wilkenfeld et al., 2005; Bright et al., 2009), adolescents (Hirschi, 2010), adults (Betsworth & Hansen, 1996; Diaz de Chumaceiro, 2004; McDonald, 2010; Roe & Baruch, 1967), nonprofessional workers (Hart, Rayner, & Christensen, 1971; Salomone & Slaney, 1981), scientists (Lerner, Petersen, Silbereisen, & Brooks-Gunn, 2014; Williams et al., 1998), and chief executive officers (i.e. CEOs; Blanco & Golik, 2014). Based on this work, it can be concluded that people often perceive chance to have played a role in their career and that chance events occur in different forms (e.g., meeting a person, encountering information, change of context). The extent to which people act upon such chance events also varies, as it can result in no change, a change of goals (e.g., internship instead of job), or a change of strategy to achieve those goals (e.g., to follow up on website link that was advertised at the gym instead of simply browsing the internet for vacancies).

### **Individual differences in chance**

Some people may be more likely to experience chance events than others (e.g., Bandura, 1998; Graebner, 2004; Merton & Barber, 2004). Existing process models on chance events help to shed light on the non-random component of experiencing and capitalizing on chance events. Such models describe what happens before, during, and after the occurrence of a chance event (e.g., Erdelez, 2004; Lawley & Tompkins, 2008; Makri & Blandford, 2012; Merton & Barber, 2004; Napolitano, 2013). Drawing from these process models, we discuss the three phases that may help explain individual differences in experiencing and capitalizing on chance events: Occurrence, Perception, and Selection.

#### *Occurrence*

A chance event starts with its occurrence. Although a chance event may often be considered synonymous with a lucky accident (Napolitano, 2013), its occurrence is not always random. Factors that may predict the occurrence of chance events include job seeker's opportunities, personality, and preparation.

With regard to the opportunity to experience chance events, it has been argued that people with larger social networks naturally have more social contacts who can incidentally approach them with information (Granovetter, 1974). Evidence in this direction shows that social networks are beneficial for employment chances even among people who do not search for employment (e.g., Chua, 2014; Lin & Ao, 2008; McDonald & Elder, 2006; McDonald & Day, 2010), possibly due to unanticipated help (Dew, 2009; Lin, 2006). One study considered this explicitly and found that people with larger social networks receive more unsolicited job leads (McDonald, 2010). Hence, the opportunity to experience chance events may be higher among those with a larger social network.

The personality trait "openness to experience" is related to enlarging one's experiences and environments (McCrae, 1996). Creating opportunities for chance events, an "open" person's curious mind actively searches for new experiences by exploring and browsing, which increases the opportunity to acquire incidental information (Heinström, 2002; Nahl & James, 1996). Personality may also predict the opportunity for chance events to occur in a more passive manner. With regard to interpersonal chance events, people evoke action in others who approach them or share information. This may be more likely to happen to agreeable and extraverted people, who are more likeable and therefore evoke more positive action in others (Bandura, 1982; Pickering and Gray, 2001). Hence, it is expected that chance events occur more frequently among more agreeable, extraverted, and open job seekers.

People who have prepared for their job search process more intensively have probably mobilized more people and places where information can be obtained (e.g., websites, information markets). Mobilization of other people and contexts can result in unanticipated benefits (Chen, 2005; Pálssdóttir, 2010). For example, if people search for a new job and end up finding the internship they have always dreamed of, this event

may contain a chance element for them (i.e., Diaz de Chumuciero, 2004). Also, if employers with a vacancy in their company visit a networking event (e.g., conference) where they see two potential future employees, they seem more likely to offer the vacancy to the well-prepared job seeker. So, even without the job seeker knowing about this vacancy, his preparedness may make him more likely to receive the unanticipated offer. Hence, chance events may occur more frequently among people who prepare more intensively for their job search process.

In sum, it seems that social contexts, personality, and preparation shape opportunities for the occurrence of chance events (Bandura, 1982; McCay-Peet, 2013). That is, open, well-prepared job seekers with a larger social network seem more likely to encounter something they did not expect.

### *Perception*

Once a chance event has occurred, a second requirement for a chance event to play a role in careers is that the actor notices the event (Dew, 2009; Erdelez & Rioux, 2000). While some chance events are perceived, others go unnoticed. Process models suggest that personality and preparation predict the perception of chance events (Makri & Blandford, 2012; Napolitano, 2013; see also Pasteur, 1854). Openness to experience may help to be ready for unanticipated events and recognize them (Pickering & Gray, 2001), as open people may be more flexible during active seeking and more ready to explore unanticipated leads and connect it to their goals (Chen, 2005; Foster & Ford, 2003; McBirnie, 2008).

Preparation may also help to notice chance events. As mentioned before, chance events are more likely to occur among people who have already engaged in explorative action in the domain of the chance event (e.g., preparatory job search behavior before experiencing a career-related chance event; Pálssdóttir, 2010). In turn, it is easier to perceive events that have a higher probability of occurring (Chen, 2005; Mitroff & Biggs, 2014). For example, job seekers browsing the internet for vacancies seem more likely to notice an advertisement for a potentially relevant internship abroad compared to people browsing the internet for a new phone. Thus, job seekers who engage in more preparatory job search behavior will be more likely to perceive job search related chance events.

### *Selection*

Simply perceiving a chance event does not guarantee its influence on a person's career development. Instead, after perceiving a chance event, a person may need to select it for further investment. This *selection* refers to the action taken after perceiving a chance event. Action needed to benefit from a chance event typically requires a change of goals or goal strategies. For example, a new goal needs to be defined if someone initially strived for a new job and received an unanticipated offer to do an internship, while a new goal strategy is required if someone initially searched through the internet and is now recommended to call an acquaintance. In some cases, immediate or extensive

action is required before the chance event has an impact; in other cases, delayed and little effort is enough. In rare cases, no selection is needed for the event to have an impact (e.g., a co-worker unexpectedly leaving the company). However, active event selection is needed most of the times.

One straightforward predictor of the willingness to take such action is the perceived potential value of the event (e.g., Guindon & Hanna, 2002; Lawley & Tompkins, 2008; Makri & Blandford, 2012). Perceived potential value is higher when people consider the event to potentially contribute to their future success. The event could be valuable because it aligns with someone's goals, or because it contributes to the identification of a new goal. Yet, not all individuals may value chance events in the same way. Given the need for flexible adjustment of goals and goal strategies, more open and flexible people may be more likely to perceive chance events as valuable (Costa & McCrae, 1997; Hirschi, 2010; Krumboltz, 2009). In turn, open people will be more likely to select and capitalize on chance events (Mitchell et al., 1999; Napolitano, 2013). Consistent with this reasoning, forthcoming research suggests that, among American late adolescents, experiencing positive chance events leads to greater levels of selection of those events, which in turn is associated with an adaptive university transition (Napolitano, Baay, & Geldhof, in preparation).

### **Current research**

The aim of the current research is to shed light on the non-random component of the experience and capitalization of chance events. We address two gaps of knowledge in the literature. First, we describe individual differences in the experience of chance events. Despite theoretical work that predicts individual differences in people's preparation and opportunities for chance events, few empirical studies have addressed individual differences in the experience of chance events (Hirschi, 2010; Napolitano, 2013). This may in part be due to participants' difficulties in conceptualizing and recalling past experiences of chance events (Erdelez, 2004; Pritchard & Smith, 2004). Study 1 uses longitudinal data on school-to-work transitions, in which job seekers report on specific job search-related chance events. The experience of these chance events is hypothesized to be related to indicators of job seekers' opportunities, personality, and preparation.

Second, we describe people's active contribution to the occurrence and effects of chance. Previous qualitative work has yielded some general understanding of how people can successfully deal with chance events. For example, the occurrence of chance events seems higher among individuals who inform their social network about their wishes and who feel free and flexible to act upon chance events (Blanco & Golik, 2014; McDonald, 201; Williams et al., 1998). However, in part because chance events are difficult to observe (Erdelez, 1999), insight into people's active contribution to the occurrence and effects of chance has remained limited (Napolitano, 2013). Specifically, previous work has not differentiated between the three phases of chance events (i.e., occurrence, perception, and selection). Doing so would provide insight into whether



individual differences in the role of chance exist as a result of different exposure, perception, or selection of these events. Contributing to this understanding, Study 2 employs a controlled design in which applicants were exposed to the same chance events during a job interview process. This way, people’s own perception of what constitutes a chance event does not play a role. Also, having controlled the occurrence of chance events, Study 2 differentiates between the other two chance phases of perception and selection. Applicants’ perception and selection of the chance events is examined in relation to their personality and preparation.

*Hypotheses*

Figure 7.1 gives an overview of the chance phases and related constructs that are examined in the current research. Study 1 and Study 2 examine opportunity, personality, and preparation differences in the self-reported experience and observed capitalization of chance events. In Study 1, in which opportunities for chance events may vary, we use the size of the social network as an indicator for opportunities, as social ties can provide (unexpected) information (Granovetter, 1974; Lin, 2006). Hence, we predict that the larger someone’s social network, the larger the opportunity for chance events. In Study 2, opportunities for chance events are held constant.

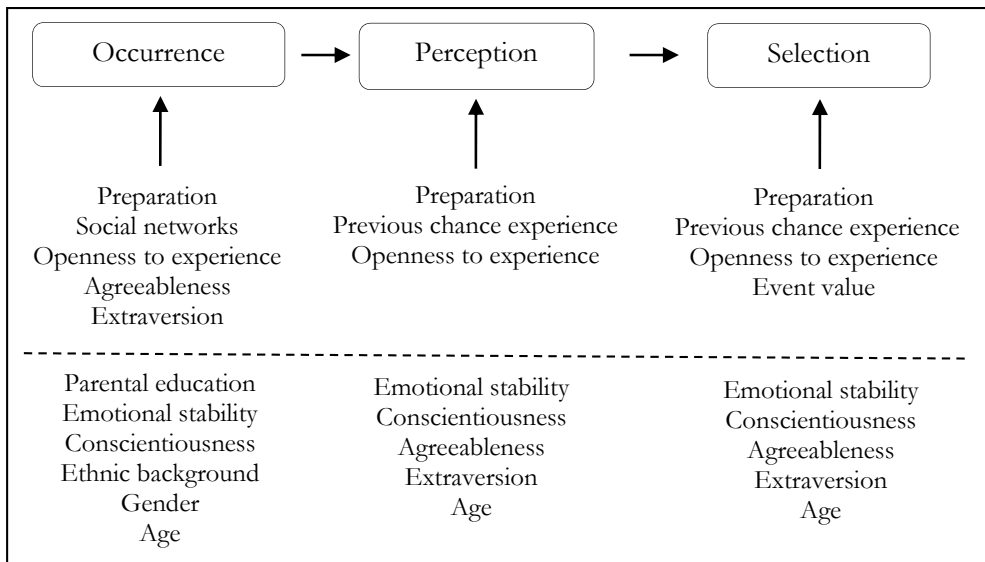


Figure 7.1 Examined relations between job seekers’ characteristics and the three phases of chance

Note: The relations between chance phases and constructs above the dotted line are hypothesized relations; constructs below the dotted line are examined for exploratory purposes.

With regard to personality, we expect that open, extraverted, and agreeable job seekers report more chance events. Although empirical evidence for the role of openness to experience is not unequivocal (Heinström, 2002, 2006; Hirschi, 2010; McCay-Peet, 2013; Pálssdóttir, 2010; Williams et al., 1998), we predict open job seekers to report more chance events: They seem more likely to be exposed, to notice, and to value chance events (Costa & McCrae, 1997; Heinström, 2002; Nahl & James, 1996; Napolitano, 2013). Agreeable and extraverted job seekers may report more chance events because they evoke a more positive reaction in their social environment, which may lead to more unexpected information (Bandura, 1982). In Study 2, in which exposure to chance events is controlled, no effect of agreeableness and extraversion is expected. The role of conscientiousness and emotional stability is considered for exploratory purposes.

We expect that those who have prepared for their job search more intensively have mobilized more people and contexts, which could result in unanticipated benefits (Chen, 2005; Pálssdóttir, 2010). Also, being active in the job search domain may make people more alert to unanticipated situations in that domain (Chen, 2005; Pálssdóttir, 2010). Hence, we predict better-prepared job seekers to report more chance events.

## Study 1

Study 1 examines whether chance events in the school-to-work transition occur randomly to job seekers or whether they can be predicted from job seeker's social networks, personality, and preparation. Similar to previous empirical work (e.g., Hirschi, 2010), participants report on what they consider to have been chance events, and no distinction is made between the occurrence, perception, and selection of chance events in Study 1.

## Method

We used data from the School2Work project, which is a longitudinal investigation of the school-to-work transition of vocational education and training (VET) graduates in the Netherlands. The project follows students from their final year before graduation until three years later (Baay, van Aken, de Ridder, & van der Lippe, 2014; see the Appendix for an extensive description of the project and data collection process). The current study uses the first data collection wave for information about job seeker's personality, preparation, and social networks (administered on average nine months before graduation from the VET program; September-December, 2011). Given that chance events can play a role in the job search process, which already starts before graduation, we assessed chance events both before and after graduation. Chance events before graduation were assessed at the second data collection wave (February-May, 2012); chance events after graduation were assessed in the first wave after students had graduated (i.e., depending on graduation date, this could be the second, third (December, 2012) or fourth (December, 2013) data collection wave).

Students were included in the analyses if they had filled out the questions in the first wave and at least one measure about chance events (before or after graduation). Fourteen participants were excluded because they did not fill out the questionnaire seriously (indicated by a series of 30 ‘neutral’ answers). Two hundred sixty-four of the remaining job seekers who had filled out the first wave reported on chance events before graduation, 228 after graduation. In the longitudinal sample, some students have participated in the wave reporting on chance events before graduation, others in a wave reporting on chance events after graduation, and again others in both.

In total, 390 job seekers had provided information before and/or after graduation about their experience with job search related chance events. 58% was female and they had an average age of 21.20 years at the first wave ( $SD = 4.76$ ). Twenty-four percent of participants had at least one parent born abroad, which is the criterion for being considered an ethnic minority in the Netherlands (Statistics Netherlands, 2014).

Table 7.1 presents descriptive statistics and bivariate correlations of the Study 1 variables.

### Measures

Personality was measured with the Quick Big Five (Vermulst & Gerris, 2005), which is a shortened version of Goldberg’s Big Five questionnaire (Gerris et al., 1998; Goldberg, 1992). The Big Five is a widely used conceptualization of personality and taps into respondents’ extraversion (sample item: *talkative*), conscientiousness (*systematic*), agreeableness (*pleasant*), emotional stability (*nervous*- reverse coded), and openness to experience (*exploratory*). All five traits were measured with six 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*). Cronbach’s alphas are satisfactory for extraversion ( $\alpha = .86$ ), conscientiousness ( $\alpha = .86$ ), agreeableness ( $\alpha = .76$ ), and emotional stability ( $\alpha = .80$ ). Consistent with prior research (e.g., Heinström, 2006; Hirschi, 2010), the reliability for openness to experience was somewhat lower ( $\alpha = .65$ ).

Preparation for job searching was assessed with a 4-item index (Blau, 1994) that measured how often participants had performed preparatory job search behavior. Items were: How often in the past six months have you 1) read information about how to best apply for a job, 2) written down your wishes and talents to prepare for job applying, 3) searched for and read vacancies on the internet, and 4) searched for and read vacancies in the newspaper or professional journal. Respondents rated the frequency on a 5-point scale (0 = Never, 4 = More than 10 times;  $\alpha = .83$ ).

Table 7.1 Descriptive statistics and bivariate correlations of Study 1 variables

	<i>M</i>	<i>SD</i>	5	6	7	8	9	10	11	12	13	14
1. Age	21.20	4.76	.02	.18***	.07	.04	.01	-.06	.24***	-.04	.07	-.10
2. Ethnic minority	0.24	0.42	.03	.15**	.06	.09†	.01	.08	.25***	.12*	-.01	.09
3. Parental education	5.27	1.91	.06	-.20***	.01	.04	.12*	.05	-.15**	-.06	.11	.04
4. Female	0.58	0.49	-.02	.13**	.10*	-.18***	-.11*	-.12*	.20***	-.03	-.01	-.15†
5. Extraversion	4.64	1.16		-.06	.22***	.49***	.17**	.20***	.03	.04	-.15*	.11
6. Conscientiousness	4.96	1.06			.15**	.00	.16**	.03	.18***	.08	.02	-.04
7. Agreeableness	5.76	0.59				.11*	.33***	.07	.15**	.07	-.01	.14†
8. Emotional stability	4.17	1.05					.09†	.15**	-.07	.02	.14*	.10
9. Openness to experience	4.99	0.79						.10†	.10†	.11†	.03	.19*
10. Social network size	6.98	2.71							.11*	.24***	-.06	.10
11. Preparation for job searching	2.01	0.95								.23***	-.04	.05
12. Chance events before graduation	3.76	2.96									.22*	.41**
13. Chance events after graduation (0/non-zero)	0.65	0.48										1
14. Chance events after graduation (non-zero - 4)	4.78	3.28										

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

Social network size is assessed with the Position Generator, which maps an individual's social relations through their professions (Lin & Dumin, 1986). Respondents received a list of professions and were asked to indicate whether they know someone with that profession (Lin, 1999b). The Position Generator is a typical way to examine people's social network, because it can capture a variety of relations. Instead of focusing on intimate or geographically close social ties, the Position Generator is content-free and, therefore, more representative of someone's social network (Lin, Fu, & Hsung, 2001). For twelve combinations of professions (e.g., janitor, garbage collector, window cleaner), respondents indicated whether they knew anyone with these professions. In line with previous research using this instrument, the sum was used as an indicator for social network size ( $\alpha = .71$ ).

The experience of chance events was assessed with a 5-item index, which was composed of types of chance events that people have described in qualitative studies (e.g., McDonald, 2010; Williams et al., 1998). Similar to previous research (e.g., Bright, Pryor, & Harpham, 2005), we did not present a definition of chance events to the respondents. Instead, respondents gave their own assessment of whether certain events happened by chance. Items were: How often, in the last three months, have you 1) received information about vacancies without you asking about it, 2) by mere chance, received information about a vacancy, 3) by mere chance, met people who could help you search for a job, 4) received a job offer without you asking, 5) felt like you got a job by mere chance. Respondents rated the frequency on a 5-point scale (0 = Never, 4 = More than 10 times;  $\alpha = .73$ ). The sum of the five items ( $M = 3.76$ ) indicates that respondents have experienced quite some chance events in their job search process before graduation.

The experience of chance events after graduation was completed by people who had found employment as well as by people who were still searching for employment. As this questionnaire was filled out after graduation (i.e., at home), efforts were made to keep the questionnaire concise. To this end, it was first asked whether they had experienced that chance played a role in their job search process. Only if this was true to some degree (i.e.,  $\geq 5$  on a 0-10 scale), respondents filled out the 5-item index that was also used for chance events before graduation ( $\alpha = .79$ ). Sixty-five percent of respondents ( $n = 148$ ) after graduation had experienced at least some chance in their job search process. Among those having experienced chance, graduates reported to have experienced quite some chance events ( $M = 4.78$ ).

The two indicators for chance events after graduation (i.e., whether or not they had experienced chance events and the extent to which they experienced chance events) were analyzed in tandem. Specifically, a two-part model was estimated (Neelon & O'Malley, 2014), which is used for continuous variables with a non-proportionate number of zeroes. This was the case for chance events after graduation, as 29% reported to not have experienced chance. The two-part model estimates the effects of the independent variables on the probability of chance events after graduation being zero versus non-zero (Table 7.2, column 2) and the effects of the independent variables

on the number of chance events after graduation given that this is not zero (Table 7.2, column 3).

Analyses were controlled for job seeker's gender, age, parents' highest educational level, and whether or not the job seeker was an ethnic minority (i.e., with at least one parent born abroad; Statistics Netherlands, 2014).

## Results

The general expectation tested in Study 1 is that chance events in the job search process are not random, and that job seeker's opportunity (i.e., through their social networks), Big Five personality, and preparation predict individual differences in chance events. Supporting the position that chance events are not entirely random, the variables in the model (Table 7.2) explain 13% and 24% of the variance in chance events before and after graduation, respectively.

Table 7.2 presents the regression models that predict the experience of chance events before and after graduation. Older job seekers reported fewer chance events before and after graduation. Ethnic minorities and majorities did not report differences. Those with a higher parental education were more likely to have experienced chance events after graduation. Men, if they had experienced chance after graduation, reported more chance events than women.

In line with the hypothesis that those with better opportunities will experience more chance events, we found that those with a larger social network report more chance events (before graduation, but not after graduation). Follow-up analyses indicate that both social relations with whom the job seeker had discussed job searching ( $\beta = .34, t = 4.37, p < .001$ ) as well as social relations with whom the job seeker had not discussed job searching ( $\beta = .03, t = 2.13, p = .034$ ) predict chance events before graduation. A test for equality of estimates shows that mobilized social relations have a significantly stronger effect than unmobilized social relations ( $\Delta b = .14, t = 2.13, p = .033$ ). Also, social network size was the strongest predictor of chance events before graduation ( $\beta = .25$ ). Given the non-significant relation of social network size with chance events after graduation, we found partial support for the hypothesis that social network size predicts chance events.

With regard to personality, it was hypothesized that especially openness to experience, agreeableness, and extraversion would relate to more chance events. Extraversion and openness to experience were not correlated with the frequency of chance events, while agreeableness related marginally significantly ( $p < .10$ ) to higher levels of chance events after graduation. Exploring the role of the other two Big Five personality traits, we found that emotional stability did not relate to the experience of chance, while conscientiousness related marginally significantly to ( $p < .10$ ) to higher levels of chance events after graduation. Given the lack of significant relations, the hypothesis that personality is a predictor of the experience of chance events is not supported.

Those who prepared more intensively for their job search process reported more chance events, both before and after graduation. In fact, preparation for the job search process is the strongest predictor of chance events after graduation ( $\beta = .23$ ). Hence, the hypothesis that preparedness predicts chance events is supported.

Table 7.2 Prediction of experiencing serendipitous events in the job search process (Study 1)

	Chance events before graduation (0-4)		Chance events after graduation (0 / > 0)		Chance events after graduation (1-4)	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Age	-.02*	.01	.03	.04	-.03**	.01
Ethnic minority	-.04	.11	.34	.42	.07	.20
Parental education	-.02	.02	.17*	.08	.01	.04
Female	-.06	.07	.01	.35	-.26*	.13
Extraversion	-.00	.04	-.22	.17	.03	.07
Conscientiousness	-.01	.04	.07	.16	.12†	.07
Agreeableness	.05	.06	.01	.30	.22†	.13
Emotional stability	-.01	.04	-.29	.18	.12	.07
Openness to experience	.04	.05	.13	.22	.09	.09
Social network size	.05***	.02	-.05	.07	.01	.02
Preparation job searching	.11**	.04	-.11	.19	.18*	.08
R <sup>2</sup>	.13		.09		.24	

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

## Discussion

The experience of chance events, which is often described as ‘luck’ or ‘by mere chance’ is not random: Several individual factors were significantly associated with the experience of chance events in the school-to-work transition. Two findings stand out in 1. First, the experience of chance events seems shaped by opportunity. Both job seekers with a larger social network as well as job seekers whose parents were better educated reported more chance events. This points to the idea that the social environment is important for the occurrence of chance events. The second conclusion is that people can play a role themselves in experiencing chance events. Increased preparation for the job search process was related to experiencing more chance events. Hence, both the social environment as well as the individual can contribute to the experience of chance events.

Although Study 1 provides some insight into the non-random distribution of chance events, some questions remain open. First, there is some evidence that people differ in their attribution of events, to either internal (e.g., effort) or external (e.g., chance) processes (Bright, Pryor, & Harpham, 2005; Hirschi, 2010; but see for a null finding Bright et al., 2009). Hence, we cannot conclude from our correlational study whether certain people (e.g., those who prepared more intensively) were exposed to more chance events or whether they have only perceived it as such. Second, even

though the role of preparation points to an active component in experiencing chance, it remains unclear whether the active component relates to differences in people's exposure, perception or selection of chance. Study 2 addressed both questions.

## Study 2

The general expectation tested in Study 2 was that the extent to which job applicants perceive and select chance events in a job interview process can be predicted from their personality and job interview preparation. As all applicants were exposed to the same chance events, people's own perception of what constitutes a chance event does not play a role. Also, Study 2 differentiates between the two chance phases of perception and selection (by asking if participants perceived the events and by observing these participants for selection of these events). Applicants' event perception and selection is, again, assumed to be related to their personality and preparation. To examine whether participant reports on previous chance experiences aligns with their behavior in a setting with controlled chance events, we also considered whether a measure of past experience with chance events would predict the perception and selection of chance events in the current study.

### Method

#### *Participants*

Participants applied for six research-assistant positions who would be collecting data in schools. The vacancy was advertised through flyers on the university campus and university websites that present job vacancies for students. The job advertisement contained an e-mail address to which interested students could send their resume and letter of motivation. From a total of 109 applicants, 37 did not meet the initial requirement of currently being enrolled as a student of Utrecht University. Seventy-two applicants were invited for the job interview.

#### *Design*

An observational controlled study was conducted to expose applicants to chance events during the job interview process. The manipulated procedure was added to an existing job application process to ensure a realistic setting and produce realistic responses from the participants.

Several precautions were taken to deal with potential ethical issues that would arise from accompanying a job interview with research related measures and methods. All participants were exposed to the same information to ensure equal chances during the job interview. Also, participants were kept unaware of the study until the job interview was completed. The person conducting the job interviews was not permitted to see any collected data until the vacancies were filled. Each participant was asked permission beforehand to record the job interview and, afterwards, each participant was explained the study accompanied with the job interview. All participants were given the



opportunity to withdraw their data collected for the study. One applicant from the pilot group did so; she was removed from the analyses (and still considered for the vacancies).

The study was conducted in the Netherlands, where scientific research involving human subjects must undergo a review as to whether the research is subject to the Medical Research Involving Human Subjects Act (WMO). Research involving human subjects only falls within the remit of the Act if it involves any form of invasion of participants' integrity. To assess whether Study 2 fell within the remit of the Act, the study procedure was, consistent with the Psychology department of Utrecht University protocol, assessed by the Advisory Committee for the Medical Research Involving Human Subjects Act of the Psychology faculty of Utrecht University. This committee rated the study as not being invasive of the participants' integrity, and hence not subject to the WMO.

### *Manipulated chance events*

The aim of the study was to examine whether applicants would perceive and select chance events in the job interview process. Acknowledging that chance events can occur in different forms, we exposed applicants to three chance events that differed in the required action and presentation form (i.e., a digital, a written, and a verbal chance event).

Event A was a statement in the digital invitation for the job interview. Besides practical information (i.e., date, time, location, name of person doing the interview), the digital invitation included the following sentence: *Should you like to know the exact procedures of the data collection, you can send an e-mail to [research assistant's name + e-mail address] to retrieve last year's protocol.* If applicants sent an e-mail, the research assistant sent the protocol and additionally wrote: *Unfortunately, I don't have the questionnaire anymore, but I think another research-assistant will still have it. Maybe you would like to see it before you apply? Her e-mail address is [...].* The opportunity to also obtain the questionnaire was added in the design to be able to differentiate between initial selection (i.e., request protocol) and sustained selection (Napolitano, 2013). Instead of this distinction, we decided to use a different indicator for event selection. Specifically, our reasoning is that this chance event only becomes valuable in the job interview process if the applicant can make a well-informed impression during the job interview by mentioning this information. Hence, selection of the event is indicated by mentioning the protocol or questionnaire in the job interview rather than by requesting the documents (see Measures for details).

Event B was a poster in the waiting room, which each applicant occupied for five minutes before the interview. The waiting room contained several chairs, a table, a bottle of water with some cups and the poster. The poster was ostensibly created by the company *Veni, Vidi, Accepta* (i.e., *I came, I saw, I was hired* in Latin), which offered courses on job applying. Besides a link to a website and contact information, it contained three tips for a job interview. These tips were: *apart from skills that you master, mention at least one skill you could still improve, refer explicitly to your resume when you discuss your*

*work experience, and convey an interested attitude by asking the interviewer how he got his job.* These tips were chosen because it was possible to measure whether people would use these tips in the interview (i.e., selection). For example, if the poster had recommended to give a firm handshake, it would be more difficult to code. Also, the tips were considered strategies that applicants typically would not use by themselves, but seemed reasonable to adopt.

Event C was a (verbal) comment made at the end of the job interview. This comment was *it might be interesting for you to know that, next to the vacancies you are currently applying for, [the employer's name] offers a research internship in his department. If you would like to receive more information about this opportunity, you can send him an e-mail.* It was mentioned that this opportunity was independent of the research assistant vacancies. As this event was presented in all interviews, we assumed that all applicants would hear (i.e., perceive) the event, so only selection of this event was assessed (see Measures for details).

### *Procedure*

Applicants received an invitation for the job interview and were sent information regarding the job interview via an e-mail. This e-mail included chance event A.

Applicants were asked to report in a room at the campus for the job interview. Upon arrival, a research assistant asked applicants to wait in an adjacent room. The interviewer tracked whether the time that the applicant was in this room to ensure equal exposure to chance event B (i.e., the poster) for every applicant. After five minutes, the interviewer brought the applicant to a third room, in which the interview took place. In the 10-15 minutes job interview, chance event C (i.e., the research internship) was presented. After finishing the job interview, applicants were asked to report back to the research assistant and were debriefed. Applicants were then given an informed consent form about the accompanying research, and upon providing consent, participants completed a brief questionnaire. Applicants were reassured that the job interview was real and not set up for data collection. Also, they were reassured that refusing to fill out the questionnaire would not impact the selection process, as the research assistant would not discuss this with the interviewer.

The first five participants were used as a pilot to ensure that questions asked during the job interview were structured and contained a minimal amount of variation between interviews. These applicants were still considered for the vacancies. The remaining 67 participants (7 men, 60 women, mean age = 21.14,  $SD = 1.94$ ) were a good representation of the faculty of social sciences, especially given that the vacancies were mainly advertised among psychology students (i.e., 83% of psychology students are female).

### Measures

All measures were assessed after the job interview. Table 7.3 presents descriptive statistics and bivariate correlations of the Study 2 variables.

Like in Study 1, personality was assessed with the Quick Big Five (Vermulst & Gerris, 2005). Items were answered on an agreement scale of 1 ‘strongly disagree’ to 5 ‘strongly agree’. Internal consistency was satisfactory ( $\alpha = .86$  for extraversion,  $\alpha = .88$  for conscientiousness,  $\alpha = .74$  for agreeableness,  $\alpha = .72$  for emotional stability, and  $\alpha = .71$  for openness to experience).

Preparation for the job interview was assessed with the item *How well did you prepare this time for the job interview?* with answer categories ranging from 1 ‘not well at all’ to 5 ‘very well’.

Previous chance event experience was assessed with an index that had the same items as in Study 1. Because applicants were still in education, we excluded the fifth item about job offers and kept four items. Answer categories ranged, again, from 0 ‘never’ to 4 ‘more than 10 times’. Cronbach’s alpha is .69.

Event perception was assessed by asking applicants: *Did you notice that you could send an e-mail to [research assistant’s name] to ask for the protocol of the data collection?* and *Did you notice that there was information on the wall with job interview tips in the waiting room before the job interview?* Answer categories were Yes/No. It was assumed that all applicants had heard the suggestion for the research internship (i.e., chance event C), so perception was not assessed for this event.

Event value was assessed if applicants had perceived the event. Statements were: *[description event], I considered valuable* with answer categories from 1 ‘completely disagree’ to ‘7 completely agree’.

Event selection was assessed based on recorded job interviews and received e-mails. For selection of event A (i.e., protocol and questionnaire through e-mail), three independent raters watched the job interviews and observed whether applicants mentioned that they had read (at least one of) these documents. For selection of event B (i.e., job interview tips on the poster), raters observed whether applicants applied the tips. Only 13 out of 190 excerpts that related to the selection of events A and B were coded differently by the raters, leading to high inter-rater agreement (Cohen’s kappa = .85 - .87). Disagreements were resolved through discussion. Selection of event C (i.e., comment in interview about research internship) was assessed by whether or not applicants sent an e-mail asking for more information about the internship.

Table 7.3 Descriptive statistics and bivariate relations of Study 2 variables

	<i>M</i>	<i>SD</i>	2	3	4	5	6	7	8	9	10
1. Age	21.14	1.94	.21†	-.14	.06	.07	-.12	.02	.12	-.18	.04
2. Extraversion	5.03	0.96		-.10	-.04	.12	.14	.06	.06	-.12	.01
3. Conscientiousness	4.97	1.08			.21†	.05	-.04	.24*	.02	.25	.17
4. Agreeableness	5.87	0.44				.15	.12	-.06	.15	-.08	.20
5. Emotional stability	4.07	0.88					-.10	.12	.10	-.73	.15
6. Openness to experience	5.02	0.76						-.01	.18	-.05	-.05
7. Preparation for job interview	3.40	0.99							-.12	.38	.29*
8. Previous chance events experience	1.23	0.59								-.55	.47*
9. Event perception	0.90	0.22									1
10. Event selection	0.41	0.24									1
11. Event value	4.99	0.78									.81***

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

Note: Given the nested data (i.e., chance events were nested in job applicants), the relations of independent variables with event perception and selection represent unstandardized bivariate multilevel estimates (*bs*).

*Analyses*

Because each applicant was exposed to multiple chance events, we have nested data. The dependent structure of the data was accounted for with multilevel analyses. For event perception, two events were nested in applicants (event C was perceived by all); for event selection, three events were nested in applicants. Applicant characteristics (i.e., personality, preparation) were estimated on the between-level, event characteristics (i.e., perceived value) were assessed on the within-level.

**Results**

Perception of chance events was very high, as almost all applicants had seen the note in the e-mail about the protocol (93%) and the tips on the poster in the waiting room (87%). Selection of these chance events was lower: 70% had mentioned the protocol/questionnaire, 43% applied one or multiple tips of the poster, and 10% sent an e-mail about the research internship.

*Table 7.4* Prediction of perception and selection of chance events in the job interviewing process (Study 2)

	Event perception		Event selection	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
<b>Between-level</b>				
Age	-.12	.11	.03	.09
Previous chance event experience	-.21	.52	.49*	.23
Extraversion	.04	.30	.04	.16
Conscientiousness	.13	.24	-.00	.15
Agreeableness	.07	.50	.08	.31
Emotional stability	-.77*	.33	.01	.19
Openness to experience	.30	.55	-.16	.25
Preparation for job interview	.43	.35	.35*	.16
<b>Within-level</b>				
Event value			.80***	.20

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

Table 7.4 shows the relations of personality, preparation and chance event experience with the perception and selection of chance events. For event perception, it was predicted that especially the Big Five personality trait openness to experience would be related to higher levels of event perception. However, openness to experience did not correlate with a higher likelihood of event perception. Applicants low in emotional stability were more likely to notice the events they were exposed to. Preparation for the job interview and applicants' experience with chance events were not related to likelihood of event perception.

Selection of the events was not predicted by applicants' personality. However, applicants who had prepared more for the interview were more likely to select chance

events. Also, applicants' previous chance event experience was predictive: Those who had experienced more chance events in the past were more likely to select the events they were exposed to in the job interview process. The perceived value of an event predicted selection such that applicants were more likely to select events they considered more valuable.

In the questionnaire, it was asked whether applicants had suspected that the job interview process was also part of a research project. Zero applicants indicated 'yes, I knew this beforehand'. Eight out of 67 applicants indicated 'yes, I had a presumption'; the rest (88%) said 'No, I had no idea'. Performing the analyses without applicants who had suspected something did not change the results.

As a final exploration, it was examined whether the six applicants who were hired differed from the 62 applicants who were not hired. All hired applicants had seen the note in the e-mail (i.e., event A) and the poster in the waiting room (i.e., event B). Hired applicants were more extraverted ( $t = 4.34, p = .002$ ) and more likely to have used tips on the poster ( $\chi^2(1, n = 67) = 4.68, p = .031$ ).

## Discussion

When chance events are examined in a controlled setting, individuals' perception and selection of these events does not seem random. When given the same opportunities to experience and capitalize on chance events, well-prepared individuals were better able to benefit from these chance events. Also, less emotionally stable individuals were more likely to perceive the events. Attesting to the ecological validity of the study, applicants' experience with chance events was predictive of their action upon chance events in the controlled setting. Specifically, those having experienced more chance events in previous job searching were more likely to select the chance events they were exposed to in the job interview process. These findings provide an indication that individuals may differ in their way of acting upon chance events.

A particular strength of Study 2 is that the operationalization of chance events was controlled by the study design. Reports on chance events in previous research (and in Study 1) are affected by people's own conception of what constitutes a chance event (Bright, Pryor, & Harpham, 2005; Bright et al., 2009; Hirschi, 2010), but the equal event exposure for all applicants makes their own conception of a chance event not relevant in Study 2. This does not mean that applicants in the study could not vary on the extent to which they considered the event 'by chance'. It could still be that some applicants considered the event a result of their own effort, while others considered it merely accidental. Despite these potential differences, we could examine whether the events that we considered chance events were noticed and selected differently dependent on applicants' personality, preparation, and chance event experience.

Further advantages of the design include that the chance events span a variety of information channels (i.e., digital, written, and verbal) and that they neither seemed too strange (i.e., to prevent applicants becoming suspicious about the job interview process) nor too straightforward (i.e., to prevent all applicants selecting the events).

Also, the perception and selection of the events was reliably measurable. What might be regarded as a disadvantage of the chance events is that applicants may differ in the extent to which they consider the events valuable. For example, those who apply for the job because they need the money will be less attracted by the possibility for an (unpaid) internship. Yet, we considered it realistic to have events that some people consider more valuable than others. We have also accounted for this with a measure of event value, which indeed predicted the probability of selecting the event. Together, the events seemed realistic, unanticipated and potentially valuable in the job interview process. This is further evidenced by the finding that chance event experience outside the job interview process was related to chance capitalization in this process.

### General discussion

The current research shows that chance events play an important role in the job search process and that their occurrence, perception, and selection is not random. In the context of school-to-work transitions, Study 1 shows that labor market entrants experience more chance events if they are better prepared and if they have a larger social network. Exposing all respondents to the same chance events in Study 2, we found that better prepared job applicants were more likely to select these chance events. Also, those who had experienced more chance events in the past were more likely to capitalize on the chance events they were exposed to in Study 2. Answering the same question with different methods, the studies together present opportunity, preparation, and personality differences in the experience and capitalization of chance events (see also Figure 7.1).

The first conclusion from the current research is that people seem to have different opportunities to experience chance events. Study 1 showed that job seekers with larger social networks and better-educated parents report to have experienced more chance events. This replicates previous work (McDonald, 2010), which showed that the unsolicited receipt of job leads was related to social class and network characteristics. Extending these findings, we found that social networks were especially important if social relations had been involved in the job search process, but that also unmobilized social relations were predictive of chance events. Hence, our findings corroborate McDonald's (2010) conclusion that chance is structured by the social world.

The second conclusion from our research is that it is not opportunity alone that determines whether people experience chance. Well-prepared job seekers in the school-to-work transition were more likely to experience chance events, both before and after graduation (Study 1). Although Study 1 could not present conclusive evidence as to whether well-prepared job seekers were more exposed, more perceptive or more active in capitalizing on chance events, Study 2 shed light on this issue. When all job applicants were exposed to the same number of chance events, especially well-prepared

job applicants were likely to act upon these chance events. Indeed, as Pasteur (1854) formulated: *“chance favors the prepared mind”*.

With regard to personality, we found some unanticipated results. Openness to experience was theorized to predict exposure, perception, and selection of chance events (Costa & McCrae, 1997; Heinström, 2002; Nahl & James, 1996; Napolitano, 2013). Yet, this personality trait did not predict the experience of chance events in the school-to-work transition (Study 1), nor the perception or selection of chance events in the job interview process (Study 2). Previous research on the relation between openness to experience and chance events found mixed support (Heinström, 2002, 2006; Hirschi, 2010; Pálssdóttir, 2010; McCay-Peet, 2013; Williams et al., 1998), which may, in part, be attributable to relatively low reliability of the scale (*as* of .65 and .71 in the current studies, which is comparable to previous studies). Besides its reliability, the exact meaning of this Big Five personality trait is somewhat more vague and the label has differed from openness to creativity to intellect (John, Naumann, & Soto, 2008). With regard to the current research, it may be that being open is not sufficient to capitalize on chance events. Specifically, it may require intentionality and flexible self-regulatory capacities that can better be assessed from a more behavioral angle; in other words, a person’s openness alone may not predict positive outcomes from chance events, but rather it is some combination of openness and selection that transform chance events into sustained sources of positive development (Napolitano, 2013).

We also explored the role of emotional stability in the experience and capitalization of chance events. In Study 2, less emotionally stable (i.e., more neurotic) job applicants were more likely to perceive the chance events they were exposed to. One explanation may be that less emotionally stable individuals experienced higher state anxiety briefly before the job interview, which may result in over perception of the environment (Berggren, Blonievsky, & Derakshan, 2013). In the current setting, this alertness was beneficial to identify chance events that may otherwise have gone unnoticed.

### **Strengths, limitations, and suggestions for future research**

The current paper contributed to previous research on individual differences in chance events in three ways. First, we confirmed theoretical work that predicted individual differences in the opportunities and preparation for chance events (e.g., Bandura, 1982; 1998). Second, we shed light on process models that proposed chance events to consist of different phases (i.e., occurrence, perception, and selection; Erdelez, 2004; Lawley & Tompkins, 2008; Makri & Blandford, 2012; Merton & Barber, 2004; Napolitano, 2013). Indeed, holding occurrence of chance events constant in Study 2, we provided a first indication that these phases can be distinguished. Third, besides reporting longitudinal self-reported data on the experience of chance events, we observed how people capitalized on chance events in an ecologically valid, controlled setting. The critical notion of what people themselves consider a chance event when reporting on their past experience could not affect the results in this study. Together, the studies



illustrate opportunity and preparation differences in self-reported experience as well as observed capitalization of chance events.

Future research could improve upon the current research by using more domain-specific measures and by further studying predictors of the chance phases. While the current study used general indicators of personality (i.e., the Big Five), it may be that more specific and behavioral measures shed additional light on the process of experiencing and capitalizing on chance. In addition to the measures tested in the current research, people's flexibility and self-regulatory skills may be important (Napolitano, 2013). Predictors of the different chance phases may also depend on the type of chance events that are considered. Study 2 focused on informational pieces, which is one important category of chance events. Interpersonal chance events constitute another salient category (McBirnie & Urquhart, 2011) and different factors (e.g., extraversion) may be more important in recognizing and acting upon such chance events (McCay-Peet, 2013). Also, even though the sample of university students in Study 2 was relevant to examine chance events in a job search context, findings may not be generalizable across the life span. Future research is encouraged to examine perception and selection of chance events after exposing participants to a variety of less and more salient chance events.

### Conclusion

The current research found empirical support for Seneca's proposition that luck (i.e., chance) happens when opportunity meets preparation. Specifically, the experience of chance events among job seekers in their school-to-work transition was dependent on their social context as well as their preparation for their job search. Also, job applicants who received the opportunity to benefit from chance events did so especially if they had prepared well. In short, chance is not sheer luck after all.

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## Aiming to increase proactive behavior in prospective graduates: Five lessons learned from an ineffective training program

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Previous studies have shown that youth may benefit from behaving proactively. The current paper examined whether a theoretically informed, evidence based training program can increase proactive behavior among prospective graduates. The program was tailored to the target group of vocational education and training (VET) students. Testing the training program in a randomized controlled trial design ( $n = 317$ ), we found no evidence that the training program improved participants' proactive behavior, subsequent future goal-related behavior, or subsequent goal-related success. The lack of training effects was true for participants' self-defined goals as well as their specific future job- or education-related goals. Based on a critical reflection on the training program with regard to design, implementation, and participant commitment, five lessons learned are presented for future research and intervention development.

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Youth receive education to prepare them for their life in and outside the labor market. Recently, the debate on what youth should learn in education has considered 21<sup>st</sup> century skills (Bellanca & Brandt, 2010; Trilling & Fadel, 2009). These are skills and attitudes that may be especially relevant in the current era of (job) insecurity (Bandura, 2006), flexibility (Savickas et al., 2009), and an increased need to take own responsibility (Major, Turner, & Fletcher, 2006). Proactive behavior, which entails thinking and acting in anticipation of future events (Aspinwall & Taylor, 1997; Bateman & Crant, 1993; Schwarzer & Taubert, 2002), may be one such 21<sup>st</sup> century skill. That is, empirical work suggests that proactive behavior helps to cope flexibly with personal goals and social environments and to take responsibility of one's own future (e.g., Baay, Eccles, van Aken, van der Lippe, & de Ridder, 2014; Berg, Wrzesniewski, & Dutton, 2010). Proactive behavior may be especially relevant when the future becomes salient; for example, in the period of school graduation (Crant, 2000).

Building on the notion that prospective graduates may benefit from proactivity, the current contribution examines an intervention program that aimed to increase proactive behavior among prospective graduates. More specifically, the program aimed to increase general proactive behavior, which was expected to improve graduates' goal-oriented behavior and success in education and job seeking (e.g., Baay et al., 2014). That is, if graduates planned to continue their education, it was expected that the training would increase their general proactive behavior as well as their efforts and success in finding a new education; if graduates planned to enter the labor market, it was expected that the training would increase their general proactive behavior as well as their job search behavior and success (in addition to general proactive behavior). Prospective graduates constitute a relevant target group, as they face a relatively vulnerable labor market position (U.S. Department of Labor, Bureau of Labor Statistics, 2014; Eurostat, 2012; OECD, 2008). Hence, it is worthwhile to equip these youth with skills that can smoothen their transition into the labor market or future education (OECD, 2013).

### **Training program background**

Proactive behavior may be one skill that smoothen school-to-work transitions, as proactivity is predictive of success in the domains of work and academic achievement (Brown, Cober, Kane, Levy, & Shalhoop, 2006; Hu & Gan, 2011; Kirby, Kirby, & Lewis, 2002; Seibert, Crant, & Kraimer, 1999). A recent study has shown that proactivity also plays a role among prospective graduates in their transition from school to the labor market (Baay et al., 2014). In particular, students' proactivity was related to working harder (i.e., putting more effort in future goals and job searching), faring better (in terms of number of employment chances, salary, and job satisfaction), starting faster (with working toward future goals), and acting stronger (i.e., taking more action toward future obstacles, like anticipated discrimination, and opportunities, like networking events).

In support of the importance of proactive behavior, a recent meta-analysis has shown that intervention programs that include a component of encouraging proactivity in job seekers are more effective compared to intervention programs that do not include this component (Liu, Huang, & Wang, 2014). Although some theoretical accounts describe proactivity as a stable personality trait (Bateman & Crant, 1993), proactivity can also be viewed as a skill that is amenable to change (Aspinwall & Taylor, 1997). In line with the latter notion, there are intervention programs that have succeeded in increasing people's proactive behavior in a variety of domains, including academic achievement (Kirby et al., 2002), weight loss (Vinkers, Adriaanse, Kroese, & de Ridder, 2013), preparing for the future in later adulthood (Bode, de Ridder, Kuijer, & Bensing, 2007), and coping with diabetes (Kroese, Adriaanse, Vinkers, van de Schoot, & de Ridder, 2014; Thoolen, de Ridder, Bensing, Gorter, & Rutten, 2009). These evidence based, theoretically informed programs served as inspiration to design the training program for prospective graduates, which aimed to increase their proactive coping skills, subsequent future goal-related behavior, and subsequent future goal-related success.

## Training program design

### *Target group*

The target group for the training program consisted of vocational education and training (VET) students who were in their final school year before graduation. It is challenging to design a training program for this group of students, as they are diverse in a variety of aspects, including their future goals (Baay et al., 2014). To illustrate, somewhat less than half intend to enter the labor market, while somewhat more than half of students intend to continue their education (part-time or full-time). A small proportion of students wants to become self-employed or do something else (e.g., go travelling). Also, students vary greatly with regard to their educational background. That is, the different levels (i.e., European Qualification Framework levels 2, 3, and 4) and sectors within VET likely make for large differences in future plans, motivation, and capacities. Also, even though the timing of the training program is in the final half-year of students' educational program, some students may have already found employment while others have no idea what to do after graduation. Hence, the training required flexibility to tailor the program to the students at hand.

### *Content of the program*

Tables S8.1 and S8.2 summarize the content and aims of the two three-hour sessions. It shows that the first session focuses on what students want to achieve in their future, while the second session focuses on how students can achieve these goals.

In designing the content of the program, we followed Aspinwall & Taylor's (1997) operationalization of proactive behavior as a set of stages that individuals can follow to mentally and behaviorally prepare for events (cf. Bode et al., 2007; Thoolen et al., 2009). Specifically, proactive behavior involves 1) preparation for future events through

resource accumulation (e.g., time, money, planning skills, social networks), 2) identification of opportunities and threats to personally relevant goals, 3) objective judgment about the potential impact of the opportunity/threat, 4) adequate action to control opportunities/threats, and 5) reflection on the process and adjustment of proactive behavior if necessary.

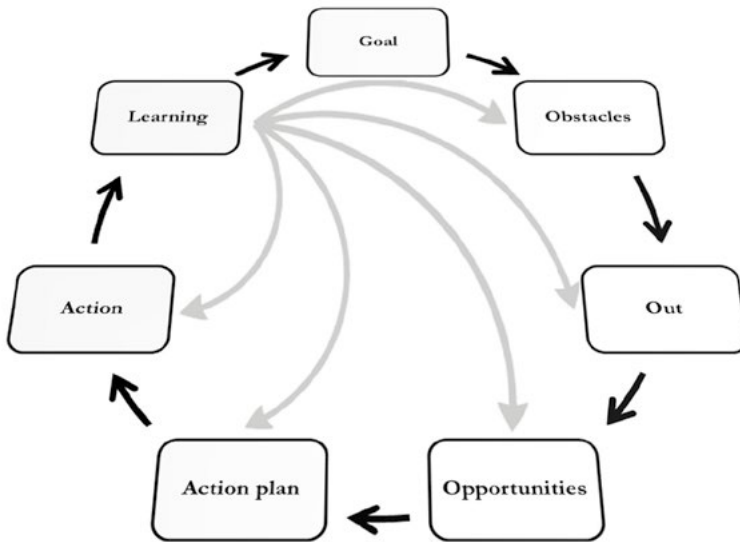


Figure 8.1 Graphical representation of GOOOAAL memory aid

Previous adopters of this model (Bode et al., 2007) have translated it into a comprehensive five-step plan, that serves as memory aid and outlines the set of steps needed to act proactively. For the current target group, this memory aid was slightly simplified and its name was popularized into GOOOAAL [DOEMAAR in Dutch], but the content was the same. The memory aid was a recurrent element in the training and served as the main tool to increase students' proactive behavior in the training. As depicted in Figure 8.1, the memory aid starts with formulating a Goal [Doel]. Threats that potentially interfere with goal achievement are then identified and weighted under the header of Obstacles [Obstakels]. Next, possibilities are formulated to get these obstacles Out of the way [Eruit]. Available resources are captured by Opportunities [Mogelijkheden]. Based on these obstacles and opportunities, adequate action is determined in an Action plan [Actieplan]. Now, it is time for Action [Actie], after which one can Learn through reflection [Reflectie]. Figure 8.1 illustrates that one can reflect on the entire process of formulating goals, obstacles, ways to deal with obstacles, opportunities, action plans, and the acting itself. This may result in adjustments of each

stage and subsequent action. The GOOOAAL/DOEMAAR memory aid formed the core of the training part on how to achieve future goals and was presented several times during the program to make students comfortable with these steps toward proactive coping, which would allow them to also use these steps for their own goals outside the program.

### *Design process*

The design process of the training program included two pilot testing phases. Before the final training program was implemented in spring 2013, a first pilot version was tested in spring 2012 and a second pilot version was tested in December 2012. Both led to considerable adaptations in the program, which we briefly outline below.

The training program designed before the first pilot version integrated elements of proactivity, social networking, and job applying based on our idea that proactivity seems easier to learn in relation to concrete behavior. In collaboration with research experts in the domain of proactivity and a social networking bureau, the content was designed to teach students how to proactively network and apply for a job. Pilot testing of the program among 149 VET students led to a number of adaptations in the program. First, students found that the training lacked focus, as it aimed to increase proactivity, social networking, and job applying at the same time. Second, the training considered aspects relevant to job searching only, whereas approximately half of the students intended to continue their education. A final insight from the pilot testing was that the training was not sufficiently tailored to the VET students in terms of training content (e.g., type of examples) and format (e.g., many writing assignments).

These three issues were addressed as follows. First, the explicit attention for social networking and job applying was removed from the program. Instead, the training was changed into a ‘content-free’ format in which students were taught proactivity in relation to their own concrete goals. Also, the Dutch Youth Council [Nationale JeugdRaad], who has ample experience with youth training programs, helped redesign the training program to make the program better tailored to students’ needs and capacities. To make the format of the training appealing to students, content was developed following the ‘slide and stairs’ method (de Galan, 2008). Participants are first put on a slide, metaphorically speaking, to make them willing to learn. This can be achieved by confronting them with the problem (e.g., lack of proactivity capacities), discussing the potential for learning these capacities, and introducing the learning method used in the training. Afterwards, participants learn by ‘climbing the stairs’. Climbing the stairs starts with theory that shows what the concept to be trained is about. After a theoretical assignment on which the theory can be applied for better understanding, a practical assignment is presented to improve ability.

The second pilot group served as final check before implementation of the program. One class that had subscribed for the training was only able to follow the program before its actual start and was used as a pilot group. When giving the training to this group of 15 Information and Communications Technology (i.e., ICT) students,

it turned out that they had no idea about their future, in part because they had received little career counseling to discuss their future plans with others. Students happily took the opportunity during the training sessions to explore their future goals. Before this pilot group, it was assumed that students would know *what* they wanted and that the training should focus on *how* to achieve this. Based on these pilot training experiences, the training was adjusted to also devote attention to *what* students want in the future (see also Tables S8.1 and S8.2).

### **Training implementation**

A VET school in the center of the Netherlands was approached to offer the training program to its students. After agreement of the school, career counselors of final year classes received an e-mail about the training program in November, 2012. Because the overarching School2Work project (see Appendix for details) and the first pilot of the program had been performed at the same school in 2011-2012, most career counselors were familiar with the researchers. As background of the program, the e-mail showed initial results of the School2Work project that were aimed to trigger the career counselors. Specifically, it was mentioned that the School2Work project had found that career counselors focused on students' short-term concerns (e.g., keeping up with homework, internship-related issues, finishing their educational program) rather than long-term concerns (e.g., finding a job, discuss future possibilities). The training program, focusing on students' proactive behavior and long-term goals, would therefore be a valuable addition to the curriculum. It was mentioned that the program was designed by researchers from Utrecht University and the Dutch Youth Council. Practical considerations were also mentioned (i.e., timing in the year, duration of the program).

Career counselors of 32 classes registered their class for the program. It was explained that it was necessary for adequate testing of effectiveness of the program to randomly assign classes to either the training group or control group. Five classes that could not integrate the training in spring 2013 were excluded. One class was used as a pilot group. The remaining 26 classes were assigned to the training or control group. Given the availability of Dutch Youth Council trainers, the training could be offered to 12 classes. Weighted randomization was used to assign 12 classes to the training and 14 to the control group. The control groups did not receive any training, but did send themselves a postcard after the second data wave (see below).



## Research methods

Effectiveness of the program was assessed in a cluster randomized controlled trial (RCT) design. Figure 8.2 depicts the timeline of the data collection and training sessions. Four waves of data were collected, starting one week before the training (W1), followed by questionnaires one week (W2), one month (W3), and seven months (W4) after the end of the training. This way, possible short-term effects as well as long-term effects with regard to the transition from school to work or further education could be assessed.

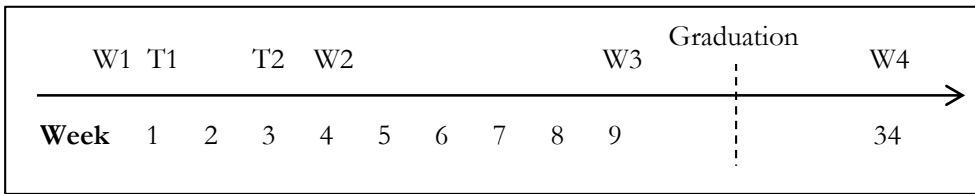


Figure 8.2 Timeline of training and data collection procedure

Note: W denotes data collection wave, T denotes training session.

Data collection for W1 and W2 took place in class. For W3, participants received their postcard that they had written in the training program (Table S8.2). Control group participants filled out this card after the second measurement wave. Participants received this postcard one month after W2, together with the W3 questionnaire. Students were reminded of this invitation to participate through e-mail and telephone. T4 was also collected through e-mail and telephone.

Questionnaires collected in week 1 were filled out by 156 students in the training group and 161 students in the control group. Response rates for the training group and control group, respectively, were 70.5% and 73.3% in week 5, 47.4% and 39.8% in week 9, and 42.9% and 45.3% seven months later. Table 8.1 provides an overview of variables that were significantly related to attrition. Across all waves, women were more likely to participate than men.

Table 8.1 Overview of Wave 1 variables related to response at follow-up waves

	Wave 2	Wave 3	Wave 4
Female (+)	.25***	.18***	.12*
Age (-)		.23*	
Conscientiousness (+)	.30*	.36**	
Procrastination (-)		.25*	
Short-term goal effort (+)		.29*	
Long-term goal effort (+)		.33**	
Number of job offers (-)	.26*		
Registered for new education (+)		.15*	

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

Note: (+) or (-) behind variables indicate whether those responding in later waves scores higher or lower on the respective variables. Estimates represent effect sizes (i.e., Cramer's V for categorical variables; Cohen's d for continuous variables). Only significant ( $p < .05$ ) differences are reported. W1 variables not significantly related to response were: ethnic background, proactive behavior, locus of control, extraversion, openness to experience, emotional stability, agreeableness, short-term goal clarity, long-term goal clarity, short-term goal achievement, long-term goal achievement, future job clarity, future education clarity, job search self-efficacy, education search self-efficacy, preparatory job search behavior, active job search behavior, education search behavior, having found employment, number of job applications, number of job interviews, career counseling at school, months before graduation, and parental education.

## Measures

Table 8.2 provides an overview of constructs included in the current study.

The first part of the table represents constructs that were measured independent of students' future plans. This includes assessments of their self-defined goals. To identify students' own future goals, students were asked to write down what they wanted to achieve in 1) three to six months and 2) six to twelve months. Given that most students would graduate within six months, 3-6 months goals generally related to their graduation (e.g., making sure I pass for the math test; finishing my internship), while 6-12 months goals related to their plans after graduation (e.g., deciding on the educational program I want to do next; getting a job). To examine progress of these goals across the course of the study, students were presented with the goals they had defined at W1 in each successive wave on the computer screen before they were asked about their clarity of these goals, effort put into the goals and achievement of these goals. The second part of the table shows measures that were collected among students who intended to enter the labor market, whereas the third part of constructs was measured among students who intended to continue their education after graduation from the VET program.

The primary hypothesis of the current study was that the training program would increase general proactive behavior. The second hypothesis was that the training program would increase graduates' goal-oriented behavior. This was assessed for graduates' self-defined goals (i.e., future goal effort) as well as separately for those entering the labor market (i.e., job search behavior) or continuing their education (i.e.,

education search behavior). The third hypothesis was that the training program would increase graduates' goal-oriented achievement. Again, this was assessed for their self-defined goals (i.e., future goal achievement) as well as separately for those entering the labor market (i.e., employment status) or continuing their education (i.e., education performance). Other constructs that were measured at multiple waves were considered for exploratory purposes (e.g., clarity, self-efficacy).

### Analyses

Effectiveness of the training was assessed in a multilevel framework, in which training assignment was measured at the class level (0 = control, 1 = training). For each outcome measure, baseline levels were controlled. A comparison between training and control groups showed significant differences with regard to the number of months before graduation, future-oriented career counseling, and gender. Specifically, compared to the control group, the training group expected to graduate sooner ( $M = 3.54$  months,  $SD = 1.76$  versus  $M = 4.70$  months,  $SD = 2.41$ ,  $d = .55$ ,  $p < .001$ ), received more future-oriented career counseling ( $M = 3.10$ ,  $SD = 0.78$  versus  $M = 2.88$ ,  $SD = 0.89$ ,  $d = .26$ ,  $p = .018$ ) and included fewer females (62.2% versus 73.3%,  $V = .12$ ,  $p < .034$ ). Although the classes were randomly assigned to control and training groups, data collection among control groups started immediately while data collection (and training sessions) among training groups spanned a period of four months. This may explain why training groups expected to graduate sooner (i.e., some classes participated later because their training was planned later in the year) and why they received more future-oriented career counseling. The number of months before graduation, future-oriented career counseling, and gender were included as control variables.

Table 8.2 Overview constructs measured to assess training program effectiveness

Construct	Source	Sample items	# items	Range	Waves
<b>1. All participants</b>					
Proactive behavior	Bode et al., 2007	I am good at looking ahead I am good at seeing opportunities	21	1-5	1-2
Future goal clarity	Self-developed	How clear is it for you what you want to achieve in the next [3-6 / 6-12] months? How clear is it for you how you can best achieve this goal?	2*	1-5	1-2-3
Future goal effort	Self-developed	During the past month, how much have you worked on your [3-6 / 6-12] month goal?	1*	1-5	1-2-3
Future goal achievement	Self-developed	Indicate where you are in relation to your [3-6 / 6-12] month goal	1*	0-10**	1-2-3
Locus of control	Spector, 1988	It requires much luck to be a good job applicant	6	1-5	1-2
Career counseling support	Self-developed	School helps me think about what I want with my future	3	1-5	1
Other variables	Self-developed	Age, gender, ethnic background, Big Five personality traits (Vermulst & Gennis, 2005), parental education, parental ethnic background, parental employment status, months before graduation			1
<b>2. Participants intending to enter the labor market</b>					
Future job clarity	Wanberg et al., 2002	I know clearly what kind of job I want	5	1-5	1-2
Job search self-efficacy	Ellis & Taylor, 1983	I am very good at searching for a job	5	1-5	1-2
Preparatory job search behavior	Blau, 1994	How often in the past three months have you browsed for and read vacancies on the internet?	5	1-5	1-2
Number of job offers	Self-developed	How many job offers have you received for after graduation?	1	0-5	1-2
Employment status	Self-developed	Have you found employment for after graduation?	1	0-1	1-2-3-4
<b>3. Participants intending to continue their education</b>					
Future education clarity	Wanberg et al., 2002	I know clearly what kind of subsequent education I want	5	1-5	1-2
Educ. search self-efficacy	Ellis & Taylor, 1983	I am very good at finding suitable subsequent education	5	1-5	1-2
Education search behavior	Blau, 1994	How often in the past three months have you browsed for subsequent educational programs on the internet?	5	1-5	1-2
Education status	Self-developed	Have you already subscribed for subsequent education?	1	0-1	1-2-3-4
Education performance	Self-developed	Whether or not students had obtained all course credits thus far (by comparing number of obtained course credits with maximum number of obtainable course credits thus far)	2	0-1	0-1 4

\* Number of items for self-defined short- and long-term goals separately. \*\* 0 = Very far away from goal; 9 = Very close to goal; 10 = Goal achieved.

## Results

### Training effects

In training group classes, only half of the students (54%) were present during both training sessions. Thirty-one students only attended one session; twenty-seven students did not participate in any of the sessions. Analyses were therefore performed on the full sample (Table 8.3, column 1) as well as on the subsample of students who participated in both sessions (column 2). Analyses on the subsample of students who participated in at least one session yielded similar results (results not shown).

The main aim of the training program was to increase students' proactive behavior. No training effect was found on proactive behavior, neither in the full sample nor in the sample who had attended both training sessions. The secondary aim of the training program was to increase students' future goal-oriented behavior. For their self-defined future goals, no training effects were found for their future goal effort. Additionally, both for those who intended to enter the labor market and for those who intended to continue their education, no training effects were found for job search behavior or education search behavior, respectively. The third aim was to increase students' future goal-oriented achievement. For their self-defined goals, no training effects were found on goal achievement. Those who entered the labor market did not report better employment chances in the training group; those who continued their education did not report better education performance in the training group. In fact, participants in the training group were less likely to have found employment at W3 and W4. In sum, no (positive) training effects were found with regard to proactive behavior, future goal-oriented behavior, and achievement. Exploratory analyses on related constructs (e.g., future clarity, self-efficacy, search intentions) did not show training effects either (see Table 8.3).

Robustness checks indicate that results are similar when only students who attended both sessions were included (Table 8.3, column 2) and if analyses were performed without the multilevel framework in which assignment into the training/control group was considered as an individual characteristic. Moderation analyses show that demographic characteristics (i.e., gender, ethnic background, age), Big Five personality traits, or initial levels of the outcome measures did not consistently moderate the training effects.

Table 8.3 Training effects on outcome variables

	All training group students (vs. all control group students)		Students having attended both training sessions (vs. all control group students)	
<b>Hypothesis 1</b>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
W2 proactive behavior	-.05	.05	-.03	.05
<b>Hypothesis 2</b>				
W2 short-term goal effort	.02	.17	-.10	.13
W2 long-term goal effort	.14	.21	.09	.09
W3 short-term goal effort	-.13	.24	-.03	.13
W3 long-term goal effort	-.09	.33	-.03	.28
W4 short-term goal effort	-.43	.41	-.30	.34
W4 long-term goal effort	.04	.30	.18	.32
W2 preparatory job search behavior	.05	.23	.02	.21
W2 education search behavior	.01	.12	-.24†	.13
<b>Hypothesis 2</b>				
W2 short-term goal achievement	.10	.28	-.12	.41
W2 long-term goal achievement	.36	.30	.21	.38
W3 short-term goal achievement	-.09	.36	-.01	.30
W3 long-term goal achievement	.01	.22	.44	.69
W4 short-term goal achievement	.45	.62	.59	.61
W4 long-term goal achievement	.24	.68	.38	.60
W2 job status	-.66	.60	-1.15	.78
W3 job status	-1.35	1.03	-2.86*	1.39
W4 job status	-2.98*	1.24	-2.98*	1.31
W2 education status	.96	.81	.30	.23
W3 education status	-.82	.55	-.24	.79
W4 education performance	.86	.90	1.95	1.20
<b>Exploratory analyses</b>				
W2 short-term goal clarity	-.01	.12	.02	.12
W2 long-term goal clarity	.01	.14	.03	.16
W2 future job clarity	.01	.34	-.01	.21
W2 future education clarity	.16	.13	.07	.15
W2 locus of control	.13	.10	.09	.10
W2 job search self-efficacy	.10	.30	-.01	.11
W2 education search self-efficacy	-.18	.13	.01	.13
W2 number of job applications	.34	.55	.22	.71
W2 number of job offers	.20	.72	.67	.86

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

Note: Analyses were controlled for students' gender, anticipated number of months before graduation, and future-oriented career counseling as training groups and control groups significantly differed on these variables.

## Training evaluation

Students who had participated in the training groups filled out a brief evaluation one week after the training (W2). Table 8.4 shows that the average scores on items about the impact of the training program regarding their behavior and motivation center around three (i.e., ‘neutral’). Hence, also according to their own answers, the training did not change their future orientation and behavior. They graded the training content and structure as sufficient (i.e., between 6 and 7 on a 10-point scale); the trainers were rated slightly higher (i.e., 7.35). Some students mentioned that the training was too easy for level 4 students or that they already knew what they wanted to do after their education, which made the program less attractive to them.

Trainers were asked to give feedback on the training program after each session.

For each training session, trainers were asked to indicate how much students had learned from the session (0 = absolutely nothing, 10 = a lot) and whether they had suggestions for improvement. The average learning experience was rated as 6.4. Trainers recommended more class tailoring, as the training was too easy for level 4 students and too difficult for level 2 students. Also, the training contained much repetition of the GOOOAAL memory aid, which was appreciated in some classes, while considered boring in other classes.

Table 8.4 Training evaluation by training group participants

	Range	<i>M</i>	<i>SD</i>
Due to the training, I have been thinking more about what I want in the future	1-5	3.15	1.01
Due to the training, I have been thinking more about how I can achieve things	1-5	3.27	0.99
Due to the training, I have been working more actively on my future	1-5	3.01	0.95
Due to the training, I have more confidence in my future	1-5	3.10	0.98
Due to the training, I have more motivation to work on my future	1-5	3.08	0.93
Due to the training, I worry more about my future	1-5	2.74	1.06
I found the training fun	1-5	3.24	1.04
I found the training instructive	1-5	3.28	1.04
I found the training interesting	1-5	3.25	0.99
I found the training difficult	1-5	2.14	1.06
I found the training helpful	1-5	3.19	1.02
Grade for training content	1-10	6.20	1.89
Grade for training structure	1-10	6.28	1.82
Grade for trainers	1-10	7.35	1.66

## Discussion

Building on research that showed beneficial effects of proactive behavior, the current research examined the effectiveness of a training program that aimed to increase proactive behavior in prospective graduates. A series of null-effects leads us to conclude that the training program was not effective. This may be surprising in light of

the facts that the training program was theoretically informed, evidence based in various contexts with various target groups, and examined in a randomized controlled trial design with a sufficiently large sample to detect effects ( $n = 317$ ). In particular, calculations in GPower 3.1 (Faul, Erdfelder, Lang, & Buchner, 2007) showed that our study had a power of .99 to detect the medium effect size that was observed in previous work (Bode et al., 2007; Thoolen et al., 2009). Based on a critical reflection on the training program, there seem to be several prerequisites for effective training programs: a high-quality training program design, successful implementation, and participant commitment. Below, we first discuss these criteria and afterwards distill five lessons learned for future research and intervention development.

### **Requirements for effective training**

The first requirement for an effective training program is to design a high-quality training program. In the current study, we built on evidence based, theoretically informed proactivity programs (e.g., Bode et al., 2007, Thoolen et al., 2009), so they were considered a good basis. We realized, also following program pilot tests, that these existing programs required adaptation to the current target group of VET youth who had not subscribed for the program themselves. Specifically, both their capacities and motivation for learning may be different compared to previous studies. Hence, we simplified the core of the program (i.e., the GOOOAAL/DOEMAAR memory aid) and collaborated with the Dutch Youth Institute to design materials that were attractive to the target group. In sum, extensive effort was made to make an instructive and attractive program design that was based on previously shown effective programs.

Another prerequisite for effective training programs is successful implementation. As the training program was offered to school classes, career counselors were the direct contact persons. We attempted to convince career counselors by pointing out that relatively few attention was given to proactive behavior in their curriculum, and career counselors voluntarily registered 32 classes. Despite extensive personal contact with the career counselors and despite attempts to accommodate implementation of the program, differences between classes emerged. Some career counselors, for example, had forgotten about introducing the program to students (which caused students to have gone home) or had forgotten to arrange rooms and/or materials (which caused the training to start chaotically). Even though all students were also informed during the pre-training data collection (W1) and most practicalities were arranged before the start of the program, implementation of the program was not ideal.

The final requirement for effective programs mentioned here is program commitment of participants. Intervention programs are often characterized by low program commitment and high drop-out rates of participants (Roter et al., 1998; Vinkers, Adriaanse, & de Ridder, 2013) attempts were made to increase participant commitment. For example, training assignments and materials were tailored to youth and the program was taught by relatively young yet experienced trainers. Nevertheless, students' physical presence and active participation was an issue in the current training



program. To illustrate, only 54% of the students in training groups participated in both sessions and only a small group completed the homework assignment. One explanation may be students' perceived lack of need for learning. Although scientific work may show benefits of proactive behavior, prospective graduates may not see the need and potential for learning to behave proactively. If the perceived need and motivation to learn are not activated in participants, even successfully implemented, high-quality training programs will likely be ineffective. In a way, the latter information would require to adjust the program with new theoretical insights into youth's ability to consider the future. Otherwise, our program did meet important requirements that have been stipulated in the literature on program development previously (e.g., Bartholomew, Parcel, Kok, Gottlieb, & Fernández, 2011).

### **Lessons learned**

In spite of having met important recommendations for program development and implementation, our research demonstrates that some important criteria need to be met when implementing a proactive coping program in a school context. Below, we identify those criteria in terms of five lessons learned.

#### *#1: Present applicable content to the training group*

Although the training program built on previous successful programs and had undergone extensive tailoring to the target group, the content of the training was not always applicable to training groups. First, the training program focused on what students could achieve in their future and how they could achieve that. Although previous proactivity programs were based on the assumption that participants knew what they wanted (e.g., losing weight, dealing with diabetes), the pilot ICT-group showed that students first needed help in determining what their future goals were. The final training program was tailored to that need, but subsequent training groups were not attracted by the focus on the what-question and their perceived need for learning was not activated by this first session.

Second, the difficulty with training proactive coping in general, and among the target group of VET graduates in particular, is its emphasis on cognitive processes. The development of proactive coping skills as described by Aspinwall and Taylor (1997) relies on reflection processes that are cognitively demanding. VET students, especially those in lower educational tracks, would have preferred more action instead of the focus on writing and thinking about goals. Unfortunately, the action that was suggested between the two sessions (i.e., making photographs of the goals, obstacles, opportunities and action that people had undertaken) was performed by only a small proportion of the group.

Content of future programs (especially for VET graduates) may profit from a stronger focus on action and a better articulation of needs of the target group. If needs are clear, it may be easier to convince training programs of the need for, and potential of, learning training materials.

### *#2: Present (individually) tailored content*

The second recommendation is to design a program that allows for a class- or student-tailored approach. Intervention tailoring is typically not encouraged in a randomized controlled trial design, because tailoring also means dependency on trainer capacities and larger interclass differences, which is often considered as “noise”. Hence, this trade-off should be considered carefully in randomized controlled trial designs. However, students in the current study may have differed too considerably to take a one-size-fits-all approach to motivate them and teach them content. Specifically, differences in educational background made it difficult to use the same assignments and approaches to motivate all students. For students of certain levels and sectors of education, some assignments were perceived as irrelevant. Also, students widely varied with regard to their future plans and needs. To accommodate learning proactive coping in this dynamic group, a content-free memory aid was developed that was expected to increase proactive coping across situations. Although students can tailor it to their own goals, it may require too much from VET students to do so independently. Also, because it was presented in a detailed, restrictive training format, trainers could not sufficiently adapt assignments to students’ needs. This tailoring can be done to adapt to participants’ triggers and needs (to improve motivation to learn) and to cognitive capacities (to improve ability to learn).

### *#3: Offer the training just-in-time*

The third recommendation is to carefully consider timing of the program. Some career counselors scheduled the training one hour before the final math test before graduation in a class where most had already found employment, while other training programs were offered six months before graduation in classes where students had no idea about what to do after graduation. If an intervention targets the school-to-work transition, the intervention is offered too late if all students have already found employment. Reversely, if an intervention aims to help students decide *how* to achieve their goals, the intervention is offered too early if students do not yet know *what* they want. As just-in-time interventions are more effective (e.g., Simkins & Maier, 2010), timing is something to consider in future programs.

Together, these three recommendations suggest that proactive tailoring, before implementation to the target group, is crucial. If participants’ needs and wishes have been clearly articulated in the design phase of the program, the training can be tailored beforehand. This shapes the assignments and content of the program but it also allows pre-defined, varying approaches for a certain assignment depending on the class or student (e.g., discussing labor market discrimination as obstacle with job seekers and terminating government subsidies as obstacle with those who continue their education). In sum, demand articulation helps to develop timely, relevant, and attractive assignments that better speak to the participants’ preferences, which may increase motivation and potential for learning.

*#4: Invest time and energy in stakeholder commitment*

Stakeholder commitment is important because the school and its teachers form the connection with the participants and set the tone before the start of the training. After all, if the training is introduced as optional (or if the training is not introduced at all), this gives the participants a good reason not to participate (actively). Besides their role in motivating participants, stakeholders are important for the practicalities of the training, as they typically arrange rooms and materials. Additionally, active involvement of stakeholders is also likely to increase their commitment. As stakeholders such as the teachers are generally more closely connected to the target group, the development of interventions can in turn benefit from their knowledge and insights. In short, when delivering interventions in the field, it is good to be aware of the crucial, connecting role of the teacher or hosting organization. Ways to increase stakeholder commitment include personal visits and information about the merit of the training for participants as well as the organization (e.g., teaching materials will be made available if program is effective). Such a personal approach should probably extend beyond the teacher and also involve the board of the school, managers, support staff, and the participants themselves.

*#5: Also investigate effectiveness of separate elements of training programs*

Besides training program developers working on design and implementation, researchers can also contribute to effective training programs. The fifth recommendation is to examine intervention programs as a whole as well as broken down into separate intervention elements (Leijten et al., 2014). For parsimonious and effective interventions to be designed, it is helpful to know which elements most importantly contribute to an effective intervention program. Also, even interventions that are ineffective as a whole may include effective elements. So-called randomized micro-trials may be helpful in this regard (Leijten et al., 2014). For example, if one group had performed an assignment with the GOOOAAL memory aid while another group had not, it could have been examined whether this tool by itself can increase proactive behavior and future goal-related behavior.

A first step to make this process more feasible is to start intervention research in a controlled setting, such as a lab. If the GOOOAAL method was assessed in a lab-setting with a relatively homogeneous target group, it could have been assessed whether this method was successful. After that, it could be examined in a more dynamic and diverse setting (e.g., a classroom). Relatedly, it may be good to compare methods in a classroom-setting as well as in individual counseling (and vice versa). Interventions in general, or certain training assignments that need to be tailored to the specific situation of a participant (e.g., GOOOAAL), may be more effective in individual counseling, while other elements may be more effective in a group setting. Taking together, we encourage future research to formulate a set of studies to examine program

effectiveness that includes 1) individual-based and group-based teaching of 2) separate and combined intervention elements, 3) in and outside the lab.

### **Conclusions**

The current paper presents null findings of a training program that aimed to increase proactive behavior, goal-oriented behavior, and goal-oriented achievement among prospective graduates. Although empirical studies on ineffective programs may not be publicly available due to developers' tendency not to report on their ineffective programs (e.g., Eisner, 2009) and due to a publication bias (Ferguson & Brannick, 2012), they may still be informative to prevent future program developers and researchers from making the same 'mistakes'. Besides providing a more realistic view on the balance between effective and ineffective programs (cf. Asscher, Deković, van der Laan, Prins, & van Arum, 2007), the current program has provided insights to practitioners as well as researchers about how to tailor the design and implementation of training programs into effective programs.



Table S8.1 Overview of training program, session 1

Part (minutes)	Content	Aim
1.1 Welcome (10)	Trainers divide active and passive role Introduction of trainers and students (what do you want to become?)	Discuss that active trainer makes better impression Create good atmosphere (and show focus on future)
1.2 Active/passive (5)	Say sentences ('I know what I want') with different attitudes (arms crossed; standing straight)	Discuss with students that taking an active attitude makes an impression on others but also influences how you yourself feel
1.3 Aim training (5)	Training 1: <i>What</i> do you want to achieve? Training 2: <i>How</i> can you achieve that?	Inform students so they know what to expect
1.4 Own success story (35)	Write success story, preferably but not necessarily related to school or work Story format assures that students include their own contribution to success When discussing stories, trainers point to aspects that also appear in GOOOAAL memory aid. Trainers give definition of proactive behavior: taking action to create positive and prevent negative outcomes	Reflect with students on their success to give them confidence. Format shows students' own contribution to success: again, an active attitude helps.
1.5 Energizer (10)	Let students reach as high as possible on the wall. Encourage them to reach even a bit higher Students try to push each other over	Putting in extra effort leads to more success If it known what is coming, one is prepared and can handle more. Being proactive is better knowing what will come
1.6 Pyramid of goals (55)	Make a pyramid of future goals, with the general goal on top, broken down into smaller goals (e.g., finding a job can be broken down into graduating, finding vacancies, knowing which company one wants to work for, which is broken down into yet smaller goals)	The general goal is often long-term and vague, breaking down helps to make it feasible. It also helps to take action, toward those smaller goals
1.7 SMART goal (25)	After explaining the SMART method, pick one goal that should be attained within 3-6 months and make it SMART (Specific, Measurable, Ambitious, Realistic, Time-bound)	Help to give students more goal clarity, so they can take concrete action toward their goals
1.8 Home assignment (10)	For next time, take pictures of your SMART goal, what you find easy, what you find difficult (i.e., potential obstacle), who or what can help you (i.e., opportunity) and an action to achieve your goal	Now that students know <i>what</i> they want, next time will be on <i>how</i> . Preparation through identification of elements that determine the <i>How</i> . Relate to GOOOAAL

Table S8.2 Overview of training program, session 2

Part (minutes)	Content	Aim
2.1 Welcome (10)	Discuss previous session (what do you want? Discuss current session (how can you achieve it?)	Manage expectations
2.2 Photo presentation (30)	Briefly present photos taken as homework assignment Focus one more time on the goal Relate to GOOOAAL memory aid	Goal will be 'fixed' after current assignment, so check once more whether goal is clear.
2.3 Movie clip (35)	Movie shows the process of a group of youngsters who dream about becoming soccer champion and who actively pursue it While using the GOOOOAL format, the group discusses youth' Goals, Obstacles, ways to get obstacles Out, their Opportunities, Action Plan and Action	Inform students so they know what to expect Students become acquainted with GOOOAAL memory aid when applying it on someone else
2.4 Post-its (45)	In four stages (on four differently colored sets of post-its), students write their Goal and as many as possible Obstacles, Opportunities, and Actions. Discuss in pairs Pick 2-3 Opportunities, Obstacles, and Actions	Identify the path toward the goal with the GOOOAAL memory aid Discussing plans and actions increases commitment
2.5 Energizer (10)	Two individuals compete who is the first to complete the sentences (I am..., I live in..., I trade....) once a particular letter is mentioned (e.g., "D")	Active attitude is rewarded
2.6 GOOOAAL in action (15)	For each letter of GOOOAAL, a piece of paper lays on the ground. Students start on "G" and step on each paper while telling their Goals, Obstacles, ways to get obstacles Out, their Opportunities, and Action Plan. Once they've finished their Action Goal, they climb a chair and are ready for Action Students help each other with additional suggestions in the GOOOAAL.	Discussing plans and actions increases commitment Class support is informative and stimulating
2.7 GOOOAAL on postcard (15)	Students write themselves a postcard, which has the letters of GOOOAAL pre-stamped They will receive the postcard in a month	One month after the training, they are reminded of their action plan and can reflect on the Goal, anticipated Obstacles and Opportunities, and their Action plan
2.8 Evaluation (5)		





# 9

General summary and discussion

The current dissertation started out by introducing Maressa, Steven, and Beatrice: Three prospective vocational education and training (VET) graduates who intended to enter the labor market. The question was who would be most likely to make a successful school-to-work transition, and which factors would predict such school-to-work transition success. It was argued that both individual and contextual characteristics play a role in this transition, and that these factors should be studied in tandem. That is, if only individual characteristics are examined, little insight is obtained into mechanisms and conditions that explain when these individual characteristics are especially important. Reversely, if only contextual characteristics are examined, individual differences in the influence of these contextual opportunities and obstacles are disregarded. Therefore, the current dissertation adopted a person-in-context framework to shed light on conditions and mechanisms for individual and contextual characteristics to predict school-to-work transition success. This final chapter presents a summary of the empirical findings and draws some conclusions from a person-in-context point of view. Also, scientific contributions, strengths, limitations and directions for future research are provided. Practical implications of the findings for individual graduates and their social contexts close the chapter.

### **Summary of findings**

The empirical chapters presented below were designed to examine the entire job search process. Unless stated otherwise, the empirical chapters used longitudinal questionnaire data on VET graduates who were followed in their transition from their final year in education to their entrance in the labor market. Specifically, chapters 2 and 3 focused on the early stage of the job search process and considered individuals' pre-graduation work motivation and job search behavior. Chapters 4 and 5 focused on the later stage of the job search process and considered individuals' post-graduation school-to-work transition success, as indicated by their employment status, number of job offers, unemployment duration, and type of contract. Chapter 6 examined the entire job search process (including pre-graduation job search behavior and post-graduation job search success). Chapter 7 focused on a specific aspect that is considered important in the job search process (e.g., Hirschi, 2010), which is the role of unexpected events. Chapter 8 presented an intervention program that aimed to improve proactive self-regulatory skills as well as subsequent job search behavior and success.

**Chapter 2** considered whether perceived work norms in someone's ethnic group play a role in the job search process of these individuals. In line with social identity theories (e.g., Tajfel, 1978), the socio-contextual work norm was predictive of graduates' job searching. In particular, graduates who perceived a more positive work norm in their ethnic group were more motivated to work and searched more intensively for employment. Socio-contextual work norms were especially strongly related to individual work motivation among people who are known to be more reactive to their social environment (Steca, Alessandri, Vecchio, & Caprara, 2007; Yu, Branje, Keijsers, Koot, & Meeus, 2013). Specifically, the relation between perceived

work norms and work motivation was stronger among overcontrollers, who have relatively low levels of decisiveness and independence (Caspi & Silva, 1995; Hart, Hofmann, Edelstein, & Keller, 1997) compared to resilient and undercontrollers, who remain more autonomous in their decision-making (Allen, Porter, & McFarland, 2006). In sum, the person-in-context approach adopted in this chapter combined insights from personality and social psychology, which revealed that job seekers in general are reactive to their social context, while there are individual differences in this contextual sensitivity.

After having provided some insight into the socio-contextual origins of work motivation, **Chapter 3** considered whether graduates in their job search process benefit from a combination of work motivation and self-control skills. Next to work motivation, it was predicted that the ability to execute self-control also predicts job searching, as successful self-controllers are better able to invest in behaviors that pay off in the long run (e.g., job searching) (de Ridder, Lensvelt-Mulders, Finkenauer, Stok, & Baumeister, 2012). Chapter 3 illustrates that the ability to execute self-control was even more predictive of job searching than work motivation. Interestingly, it was found that the role of self-control in job searching was largely independent of work motivation. Explanations for this motivation-independent role of self-control may relate to relatively effortless ways that foster job searching. One component of self-control is the inhibition of responses to temptations, such as a friend's request to come video gaming (de Ridder, de Boer, Lugtig, Bakker, & van Hooft, 2011). As successful self-controllers are less likely to perceive something as a temptation (Hofmann, Baumeister, Förster, & Vohs, 2012), they may not need motivation to inhibit a response and continue job searching. Another component of self-control is the initiation of action (de Ridder et al., 2011). An effortless self-control perspective suggests that successful self-controllers may initiate action in such a way that it requires relatively little motivation. Specifically, they may be more likely to engage in relatively habitual and effortless job search behaviors, such as subscribing for vacancy alerts or instantly updating one's CV when relevant changes occur. In sum, Chapter 3 shows that self-control is a relevant job search skill, which may even help less motivated job seekers to engage in job searching.

Focusing on the outcomes of job searching, **Chapter 4** shed light on the independent and combined role of Big Five personality traits and social networks in predicting employment chances. Studying these factors in tandem, it was simultaneously addressed *why* Big Five personality traits and *for whom* social networks are predictive of employment chances. In support of previous research, employment chances were directly predicted by extraversion, emotional stability, and social networks. Yet, little evidence was found for the hypothesis that social networks explain why personality traits predict employment chances. Hence, it seems that extraverted and emotionally stable job seekers experience better employment chances for different reasons than their social network in this study. For example, extraverts may make a better impression during job interviews (Caldwell & Burger, 1998) and emotionally

stable job seekers may be more resilient against setbacks in the job search process (Wanberg, Glomb, Song, & Sorenson, 2005), which improves their employment chances. Although social network size was predictive of the number of job offers, Big Five personality differences did not predict for whom social networks were especially important for employment chances. Chapters 5 and 6 further examined differential effects of social networks but, contrary to popular belief, it seems that Big Five personality traits and social networks play a largely independent role in the job search process.

**Chapter 5** addressed more explicitly how job seekers benefit from their social networks in finding a job. In particular, it was examined whether job seekers only experience social network benefits once they have mobilized it or whether accessible yet unmobilized social relations also predict employment chances. Findings suggest that the active mobilization of social capital is not a necessary condition for social capital to predict better employment chances. That is, both unmobilized and mobilized social relations were predictive of employment chances. These findings can be interpreted in terms of the resources that social relations can provide (Lin, 2001; Castilla, Lan, & Rissing, 2013a). If job seekers mobilize their social network, information may become available and social relations may be asked to exert influence. In addition, job seekers may profit from accessible, non-mobilized social relations because these social relations reinforce a job-seeker's sense of identity or because social relations decide to put in a good word toward potential employees without the job seeker's asking. As the latter two resources may explain the role of unmobilized social capital in the current study, they represent the so-called invisible hand of social capital (Chua, 2014; Lin, 2008; McDonald, 2011b). Another finding in this chapter was that social relations in job seekers' own sector were not more predictive of employment chances than social relations in general. This suggests that resources that are obtained through social relations are not necessarily sector-specific. Together, findings in Chapter 5 indicate that social networks can provide a variety of resources that can be obtained in different ways and from different people. What is clear though, and what is elaborated on in Chapter 7, is that social relations can be helpful in the job search process even without discussing the job search process with them.

**Chapter 6** considered what proactive job seekers do with their social networks and potential obstacles in the job search process to obtain their frequently reported superior labor market position. Replicating previous studies (e.g., Hu & Gan, 2011; Seibert, Crant, & Kraimer, 1999), consistent support across three studies in Chapter 6 showed that proactive individuals work harder toward future goals (such as finding employment) and fare better in terms of employment chances. In addition, they also seem to put more effort in shaping their environment to their needs. In particular, they start faster with working toward their goals and they act stronger toward contextual obstacles and opportunities. For example, they prepare more proactively for social networking events and job interviews, which shows to increase their pay-off. Better prepared job seekers may make a better impression, which evokes a more positive

reaction from interaction partners (e.g., they give more relevant information during a networking event or offer the job after the job interview). Also, proactive job seekers increase their (proactive) job searching if they expect an obstacle (i.e., anticipated discrimination before graduation), which seems to reduce its impact (i.e., actually experienced discrimination after graduation). Rather than becoming passive, proactive individuals seem to perceive an obstacle as a challenge (Bateman & Crant, 1993) and this different perception of the environment may make for more adaptive coping. These findings suggest that proactive coping predicts working harder, faring better, starting faster, and acting stronger in the school-to-work transition. As such, the findings form one reason for the development and implementation of the intervention program described in Chapter 8.

**Chapter 7** examined individual and contextual factors in relation to unexpected events in the job search process. Anecdotal as well as quantitative evidence has suggested that events that job seekers describe as unexpected can play a role in the development and success of careers (e.g., Bright, Pryor, & Harpham, 2005; Hirschi, 2010). These events are typically described as if luck had befallen job seekers when experiencing these events. What had remained unclear until now, however, is whether these so-called chance events can be predicted by job seeker's individual and contextual factors. Two studies show that the experience and capitalization of chance events is not random, as a substantial part of the variance in chance events is explained by job seeker's opportunity and preparation. Specifically, Study 1 indicated that job seekers with a larger social network and a better preparation for the job search process report more chance events in their school-to-work transition. Similar to Chapter 5, also accessible, yet unmobilized social relations predicted a higher level of chance events. Although agreeable and extraverted job seekers were expected to evoke their social environment to share information without them asking and, as a result, experience more chance events, no effects of these Big Five personality traits were observed. In Study 2, job applicants were exposed to ostensible chance events during a job interview process. Giving all applicants the same chance opportunities, we found that those who had prepared better for their job interview were more likely to select these events. Less emotionally stable job applicants were more likely to notice the chance events, but not more likely to select them. Together, findings suggest that both contextual and individual characteristics of job seekers help explain the role of chance in the job search process.

**Chapter 8** considered an intervention program that aimed to improve graduates' proactive coping and their subsequent job search process. Despite a theoretically informed program that has been shown effective in other domains and target groups (e.g., Bode, de Ridder, Kuijer, & Bensing, 2007; Thoolen, de Ridder, Bensing, Gorter, & Rutten, 2009), no evidence was found that this training program was effective for prospective VET graduates. Five lessons learned were formulated that related to the content and implementation of the program. Importantly, these lessons generated suggestions for the future, which included adapting the training program to students'

needs (e.g., by developing applicable content that can be tailored to the target group and is delivered just-in time), investing in stakeholder commitment (e.g., by personal visits to teachers and trainers and to reduce their role in arranging practicalities), and examining entire intervention programs as well as intervention elements (e.g., by designing a set of studies that investigates program effectiveness of 1) individual-based and group-based teaching of 2) separate and combined intervention elements, 3) in and outside the lab).

Taken together, the empirical chapters indicate that the school-to-work transition is a dynamic process in which both individual and contextual characteristics play a role. Individual characteristics included relatively stable personality traits (e.g., Big Five personality) as well as relatively malleable coping behaviors (e.g., proactive coping) as well as potentially beneficial contextual factors (e.g., social networks) and potentially detrimental contextual factors (i.e., racial discrimination). Studying these characteristics in tandem revealed conditions and mechanisms when and why these factors influence school-to-work transition success most strongly.

## General conclusions

We draw three general conclusions from the empirical chapters.

*#1: VET graduates can, to some degree, shape their own job search process.*

The job search process is typically described as a self-regulated process (e.g., Kanfer, Wanberg, & Kantrowitz, 2001; van Hove & Saks, 2008). In support of this conceptualization, the current dissertation has shown that job seekers can regulate their job search process to a considerable degree. The extent to which job seekers engage in job searching, which is considered the strongest predictor of job search success (Kanfer et al., 2001; Koen, 2013), was related to graduates' self-control. Hence, successful self-controllers were better able to regulate their behavior in the job search process.

VET graduates did not only regulate their individual job search behavior; they also shaped various contextual factors. First, job seekers were able to influence the impact of already available social contexts. Specifically, job seekers who had mobilized their social relations more intensively during their job search process reported better employment chances. Second, job seekers influenced the impact of potentially beneficial social contexts. In particular, job seekers were able to increase the pay-off of engaging in networking events and job applications by proactively preparing for these social contexts. Third, job seekers could regulate the impact of potentially detrimental social contexts. That is, proactive job seekers were more likely to act upon and successfully mitigate the impact of anticipated discrimination. Fourth, job seekers could regulate the experience and capitalization of chance events. Specifically, those who prepared better for their job search and for their job interview were more likely to experience and capitalize on chance events during these processes.

In the literature, the way in which individuals proactively shape and select their social environment is considered a common person-in-context relation (Caspi &

Roberts, 2001; Lerner, 1987). We found extensive support for this person-as-context-shaper perspective, which presumes that people can regulate their job search process by shaping their social environment. In part due to proactive shaping and selection of the environment, individuals may evoke action from others. The individual as evocative stimulus in the environment forms another way in which person and context can interact (Caspi & Roberts, 2001; Lerner, 1987). In support of this person-as-context-stimulus perspective, we found that better prepared individuals were more likely to be offered information about job leads if they engaged in job searching or network building and to receive a job offer if they engaged in job applying. Possibly, well-prepared job seekers make a better impression, which evokes a more positive reaction from interaction partners.

In short, the current dissertation shows that VET graduates can regulate their job search process by taking extensive preparatory action, engaging intensively in job searching and tailoring social contexts to one's needs.

*#2: Some VET graduates have better opportunities for school-to-work transition success than others.* Even though intensive job searching may help to find employment, it is by no means equivalent to job search success (Boswell, Zimmerman, & Swider, 2012; Koen, 2013; Wanberg, 2012). Findings in the current dissertation corroborate that active and successful job seekers are not always the same people. For example, proactive job seekers were both more active and successful, while emotionally stable job seekers were more successful but not more active. As such, one component of the job search process is the individual's effort put into job searching, but another crucial component is the opportunities that job seekers receive from their social context.

Especially if vacancies are scarce (such as during the economic crisis that was evident during the School2Work project), traditional job searching may not be the most effective job search method. Instead of finding vacancies in newspapers or websites, jobs are more likely to be distributed through social networks in periods of recession (Marsden & Gorman, 2001). This sets a limit to the number of applicants and makes the selection process more effective for employees. Hence, as was confirmed in the current dissertation, job seekers who have a larger social network experience a benefit. Even though job seekers can invest in expanding and mobilizing their social networks, this may not necessarily be enough to create the same opportunities. That is, VET graduates have the possibility to expand their sector-specific social network through internships, but we did not find that this type of social network is more helpful than someone's general social network. And while mobilized social relations were predictive of employment chances, job seekers also profited from unmobilized social relations such that a higher number of unmobilized social relations predicted better employment chances and the experience of more potentially beneficial chance events. Given that social network size and quality is related to ethnic and socioeconomic background as well as other demographic characteristics (Castilla, Lan, & Rissing, 2013b; Lin, 2000), VET graduates differ in their opportunities for school-

to-work transition success through their social networks. Also, parental education was predictive of a higher number of experienced chance events, which confirms the idea that VET graduates cannot easily create the same opportunities for success.

*#3: VET graduates differ in their perception and action upon contextual opportunities and obstacles.* Not all job seekers may deal with opportunities and obstacles in the same way. The current dissertation applied this notion to contextual factors that potentially influenced the job search process. Indeed, we found that job seekers differ in their processing of the social context and their action based on this perception of the environment. For example, we found that perceived ethnic group work norms are, in general, related to individual motivation and job searching. Two individual differences were noteworthy with regard to this general pattern. First, ethnic minorities perceived the Dutch work norm as more positive compared to how Dutch job seekers perceived this norm. Second, work motivation was more strongly related to contextual norms among job seekers who are generally more reactive to their environment (i.e., overcontrollers). Hence, it seems that people are reactive to their environment, while there are (personality related) individual differences in this contextual sensitivity. Support for this idea was also presented in relation to chance events. When job applicants were exposed to the same chance events in a job interview context, not everyone processed these chance events. Again, personality related individual differences were observed, as less emotionally stable job applicants were more likely to perceive these events.

Evidence that is suggestive of the idea that people process their environment differently is also presented in relation to environmental stressors. Previous research has suggested that proactive individuals may be more likely to perceive potential obstacles as a challenge rather than as a threat (Bateman & Crant, 1993). This different perception may be one reason why more proactive job seekers engaged in more job search behavior if they anticipated discrimination. In a similar vein, previous research has suggested that successful self-controllers are less likely to perceive temptations as distracting (Hofmann et al., 2012). This different perception, again, may explain why successful self-controllers may be more persistent in job searching. This idea ties in with the third person-in-context relation, which describes individuals as processors of their environment (Caspi & Roberts, 2001; Lerner, 1987). In line with this notion, individual differences were observed in the perception of and action upon contextual opportunities and obstacles in the job search process.



### Scientific contributions

The personal and contextual factors examined in the current dissertation are generally studied in one of the (sub-)disciplines of developmental, personality, social, or organizational psychology or sociology. Typically, researchers have examined whether the personal or contextual factor in their discipline plays a role in the job search process. What is often lacking, however, is a thorough understanding of *why*, *when*, and *for whom* these factors predict job search behavior and success. Answers to these questions require an interdisciplinary approach in which personal and contextual factors are examined in tandem. The current dissertation incorporated such a person-in-context approach and showed that individuals' job search effort and success were predicted from personal and contextual factors as well as their interaction. This warrants the conclusion that a person-in-context approach is recommended when studying the dynamics of the job search process.

Besides that the observed relations align with the three types of person-in-context relations that are described in the literature (Caspi & Roberts, 2001; Lerner, 1987), our findings also have implications for the personality research domain, social capital research domain, and self-regulation research domain.

#### *Personality research domain*

The role of personality in school-to-work transition success was addressed from different angles in this dissertation. From a Big Five personality perspective, we found that high emotional stability and high extraversion were related to better employment chances if these traits were examined separately. In contrast to previous theoretical work and popular belief, these relations were not explained by social network characteristics. Also, when the five personality traits were considered together, no relations with employment chances or the experience of chance events were found. Even though it was expected that especially agreeable and extraverted job seekers would evoke positive reactions from their environment (leading to better employment chances and more chance events), this was not observed. This does, however, not mean that personality is not important in the job search process. For example, we found that personality prototypes, which are based on the Big Five personality traits, are predictive of job searching. Specifically, resilient job seekers searched more intensively for employment than undercontrollers, while overcontrollers searched especially intensively if they perceived more positive work norms in their social environment. Thus, although we found that personality traits are predictive of job searching, there was limited evidence that this also translates into better employment chances for job seekers with these traits.

We also considered the role of a proactive personality. Job seekers with a proactive personality were more active and successful in their job search in the sense that they applied more frequently and received more job offers. Addressing the 'pro' component of proactivity, we also found that proactive job seekers are more likely to act upon potential threats. That is, proactive job seekers who anticipated discrimination

increased their job searching, while job seekers who were not proactive engaged in less job searching if they anticipated discrimination. This supports the idea that people with a proactive personality perceive obstacles differently and take action to change the environment (Bateman & Crant, 1993).

In sum, the role of job seeker's personality in the job search process is quite nuanced. We found some evidence that certain personality traits are related to increased job searching, especially if the environment warrants such behavior. Studying personality in interaction with contextual factors also shows that personality may help to deal effectively with potential opportunities and obstacles in the job search process. However, the role of personality on actual employment chances was perhaps less strongly than expected.

### *Social capital research domain*

Several chapters in the current dissertation considered the role of social networks and drew on social capital research. The concept of social capital is used by sociologists to describe resources that individuals can access through their social relations (Lin, 2001). Researchers have suggested that these social capital resources include (job search related) information, influence, social credentials, and reinforcement (Lin, 2001; Castilla et al., 2013a). This dissertation has extended previous, mainly cross-sectional research (Castilla et al., 2013b) by using longitudinal data to show that social capital before the school-to-work transition was related to better employment chances after graduation. In addition, one concern with social capital research was that associations were in fact spurious and could be explained by third factors, such as personality (Mouw, 2003; Obukhova & Lan, 2013). Models considering the longitudinal relation between social capital and employment chances while controlling for Big Five personality traits show that this was not the case in the current sample.

In response to critique on social capital researchers for not unravelling how and for whom social capital matters (e.g., Dika & Singh, 2002; Kadushin, 2004), several chapters have addressed this issue. With regard to how social capital matters, social relations were found to be beneficial in terms of employment chances even without talking with them about job searching. Also the experience of chance events was related to social capital, both if job seekers had talked to these social relations and if these social relations had remained unmobilized. This aligns with the finding that work norms in someone's ethnic environment predict individual job searching, possibly also without the job seeker talking to all these social relations. Together, these findings suggest that social benefits do not only occur after purposive, goal-oriented action; it is, for example, also possible for others to function as (passive) social credential or reinforcement of one's identity. Hence, there is more to social capital than the provision of requested information and help in the job search process.

It was additionally examined for whom social capital is predictive of employment chances. Based on popular belief and scientific insights (e.g., Costa & McCrae, 1992; Wu, Foo, & Turban, 2008), it was predicted that Big Five personality traits would help

explain which job seekers benefit from social capital. However, findings indicate that job seeker's extraversion, agreeableness, conscientiousness, openness to experience, and emotional stability do not predict whose employment chances are most strongly related to social capital. In contrast, job seeker's proactivity does predict who benefits from social capital. In particular, proactive job seekers, who also prepared for social networking events more proactively, experienced a greater pay-off of using social relations. Thus, while previous research has shown that demographic characteristics (e.g., gender, ethnic background) predict social capital benefits (e.g., Lu, Ruan, Lai, 2013; McDonald, 2011a), we extended this work by providing partial support for personality-related differences in the extent to which job seekers benefit from social capital (Forest & Wood, 2012).

In sum, besides finding longitudinal relations between social capital and employment chances as well as controlling for personality traits in these relations, the person-in-context approach in the current dissertation has contributed to the social capital research domain by shedding more light on how and for whom social capital matters.

#### *Self-regulation research domain*

The self-regulatory component of the job search process was examined in several chapters. Building on self-control and self-regulation theories, it was predicted that successful self-regulators would be more active and successful job seekers. A number of characteristics of the school-to-work transition help to understand why this transition provides a natural context to examine self-regulation processes (Grant, 2000). First, the job search process typically requires persistent effort toward a relatively long-term future goal in the presence of immediately gratifying distractions. Hence, the ability to regulate one's behavior toward the future is expected to foster the job search process (Kanfer et al., 2001). Especially if job searching occurs in the phase of leaving school, job seekers may need to orient toward the future and take action. As this upcoming transition could be perceived as a challenge as well as a threat (Newton & Keenan, 1990), individuals likely differ in their self-regulatory strategies to approach this transition. Also, job seekers not only experience internal motivation to act, they will also be affected by contextual factors that may help or hinder their transition. The person-in-context approach used in the current dissertation provided insight into how job seekers regulate their school-to-work transition in the context of these motivational and contextual processes.

Successful self-regulators (operationalized in terms of their self-control) reported higher levels of job searching. It seems that successful self-regulators are better able to inhibit undesirable action and initiate desirable action, which increases their job searching. The relation between self-control and job searching was largely independent of their work motivation, which supports the effortless self-control perspective (Adriaanse, Kroese, Gillebaart, & de Ridder, 2014; Hofmann et al., 2012). This recently developed perspective suggests that self-controllers have developed adaptive habits

and routines that make their job search process more effective without additional effort. Given the lack of need for additional effort, successful self-controllers may not need motivation to be effective. The current findings add to the ongoing debate on mechanisms through which motivation and self-control are or are not related (Carter & McCullough, 2014; Crowell, Kelley, & Schmeichel, 2014; Inzlicht, Schmeichel, & Macrae, 2014).

Job seekers do not only regulate their job search process based on their skills and motivation. Rather, socio-contextual norms may also help regulate people's behavior, with certain people (i.e., overcontrollers) being more likely to regulate their behavior in accordance with these socio-contextual norms. Self-regulation can also be used to deal with contextual factors: While successful self-regulators (operationalized in terms of their proactive coping skills) showed more active and successful job searching in general, this became especially salient when contextual obstacles and opportunities were taken into account. In particular, successful self-regulators increased the positive impact of social networking events and job applications and mitigated the negative impact of (anticipated) discrimination.

In addition to showing that successful self-regulators were able to shape anticipated events to their wishes, it was examined whether they can also optimize the returns of unanticipated events. It was predicted that successful self-regulators (operationalized in terms of their job search preparation) would be more likely to act upon unanticipated chance events. It was found that those who engaged in better preparation were more likely to experience chance events in the job search process and act upon them in a job interview process.

In sum, findings from the current person-in-context approach indicated that self-regulation of the job search process entails self-regulation of the job search behavior itself, as well as the motivational processes and contextual factors that play a role in the job search process. In that sense, it is unfortunate that the intervention program to improve (proactive) self-regulation skills proved ineffective.

## **Strengths, limitations, and directions for future research**

### *Strengths*

Some features of the current dissertation strengthen the conclusions deduced from the current dissertation. The interdisciplinary perspective taken in the dissertation has integrated insights from different disciplines, thereby allowing to investigate job search behavior and success from a person-in-context approach. As extensively discussed before, the main benefit of such an approach is that it allows for a better understanding of why and for whom personal and contextual factors play a role in the job search process. Also, the interdisciplinary approach allowed for a combination of a close examination of the process of job searching and its outcomes with a randomized controlled trial design examination of an attempt to improve this job search process.

The dissertation focused on the school-to-work transition of VET students, who tend to be underrepresented in scientific research despite their relatively poorer chances

in the labor market (U. S. Department of Labor, Bureau of Labor Statistics, 2012; Kanfer et al., 2001). Studying this group is particularly important because VET forms the largest educational group (Statistics Netherlands, 2014), is diverse with regard to ethnic and socio-economic background, and therefore provides a representation of a large and relevant group in society. In sum, identifying whether previously observed findings in university samples were generalizable to VET samples, as well as the identification of additional relevant factors in this target group is relevant to both science and society (e.g., OECD, 2013).

With regard to the School2Work data, which were used in most chapters of this dissertation (see also Table 1.1), several features are noteworthy. We followed a cohort of more than 2,000 students longitudinally in their transition from school to work. This way, the entire process of pre-graduation preparation for job searching until post-graduation adjustments in VET graduates' career plans could be tracked. The longitudinal approach was also helpful in following the large group of students who changed their graduation date or subsequent plans. A final advantage of the longitudinal pre- and post-graduation data waves was that we could be relatively confident about the causal direction of the observed relations. For example, the pre-graduation measures of social networks and post-graduation measures of employment chances largely exclude the possibility that the observed relations were due to employment chances affecting the social network.

Another strong feature of the School2Work data is the response of the sample. In part due to extensive effort to adapt the data collection to the target group (including adaptation of questionnaires and the approach of students; see Appendix 1), the School2Work project obtained considerably higher response rates (43% in the third wave) compared to other research projects among VET graduates (between 15% and 25%; ROA, 2014). Another important strength that allows for generalization of the current dissertation findings is that, with regard to gender, age, ethnic background, and educational level within the VET system, the School2Work data were representative of VET graduates in the Netherlands.

#### *Limitations and directions for future research*

The current dissertation mainly relied on self-reported data. Two disadvantages of self-reported data apply. First, individuals can give biased answers by answering in a socially desirable manner or by overestimating abilities and behaviors. Second, if both the outcome measure as well as the construct predicting that outcome measure are self-reported, factors that are not considered in the study may increase the strength of the relation. For example, certain individuals may tend to prefer higher or mid-point scores in general. This so-called shared method variance can lead to an overestimation of the relations, which especially applies if subjective constructs are measured (Trzesniewski et al., 2006). It should be noted, however, that most chapters used relatively objective outcome variables to partly resolve this issue. Moreover, in some cases, job seeker's self-report was actually the preferred source because the hypothesized mechanism

considered an individual's perception, which is difficult for another to report (e.g., perceived ethnic group work norms; anticipated discrimination). Also, fine-grained processes may be most reliably reported through self-report (e.g., proactive preparation for a social networking event) (Lance, LaPointe, Fisicaro, 1994). However, some hypothesized relations would have benefited from other-reports or observational data (e.g., extraverted or proactively prepared job seekers making a better impression in social settings), so future research is encouraged to use a multi-informant approach.

Two related concerns apply to the preferred way of measuring hypothesized processes. The current dissertation mainly drew on data that had two pre-graduation measurement waves and three post-graduation waves, which were all six or twelve months apart. Processes that occur in a short-time interval (e.g., acting upon the temptation to go video gaming with friends; preparing for a network meeting) may best be studied with data that consider daily or weekly time-interval waves. However, to study the job search process in such a way would also require a sample that is relatively homogenous in terms of their graduation date, which was not the case in the School2Work project.

Two limitations in the current dissertation were partly addressed in other contributions of the School2Work project. First, the current dissertation considered a limited number of dimensions of a successful school-to-work transition. To illustrate, outcome measures that were assessed for VET graduates included the number of job offers, whether or not employment was found, unemployment duration, and the type of contract. For the broader sample of graduates in the US sample, also salary and job satisfaction were examined. In this light, the question remains what represents a smooth school-to-work transition. The current dissertation considered whether employment was obtained at all and whether this was done quickly. However, research suggests that working at a level below one's competencies can be detrimental for individual well-being and career prospects, especially during school-to-work transitions (Kinicki, Prussia, & McKee-Ryan, 2000; Koen, 2013; McKee-Ryan & Harvey, 2011; Ng and Feldman, 2007). Other contributions of School2Work (Buers, 2014; Dumhs, 2014) considered underemployment in terms of whether work chores and working conditions are satisfactory, whether a job fits someone's level and sector of education, and whether it fits someone's salary expectations. Also, these contributions have gone beyond the first job after graduation and considered employability, career expectations, and early career success over a three-years' time span. In its entirety, the School2Work project captures the entire process of the pre-graduation job search process until the first career steps.

A second limitation that other School2Work contributions addressed is the scope of contextual factors. Although the current dissertation examined a relatively wide range (i.e., ethnic group's work norms, social relations, discrimination, social networking events, chance events), there are several other contextual factors that may play a role in the job search process. Specifically, the role of career counsellors in school and internship supervisors in the workspace, as well as employee support after

graduation, may foster smooth school-to-work transitions. From a person-in-context approach, and based on the findings in the current dissertation, it can be expected that individuals differ in the extent to which they experience and benefit from support of these contextual factors. School2Work contributions that are currently in progress will shed light on this matter (Buers, 2014; Dumhs, 2014).

To extend the notion that (social) contexts are influential in the job search process, future research is encouraged to examine generalizability of findings across, for example, educational levels and sectors. In this dissertation, little attention was paid to educational differences within the School2Work sample, although they do exist. To illustrate, Chapter 5 showed that students in the Business sector have worse employment chances. Also, from a person-in-context perspective, it can be expected that certain personalities fit better in certain (educational) contexts, which may impact their success in finding a job. For example, agreeableness and proactive behavior may be particularly important in social professions (e.g., Leisure), while conscientiousness and self-control are valued more in technical professions (e.g., ICT).

In general, future research is encouraged to examine whether the observed relations replicate across time and place. The economic crisis during the School2Work project has likely created a selection of labor market entrants that is different from other periods. That is, the demand and supply for labor market entrants may be higher during financially better times, as employees may be more likely to hire, while graduates may be more likely to decide to enter the labor market instead of continuing their education. This may change the dynamics of the job search process, with potentially different ways to success. Also the specifics of the Dutch context (e.g., high prevalence of graduates who continue education, practical educational tracks with strong link to prospective employers through internship) may influence the job search process.

### **Practical implications**

The Action Plan for Youth of the Organisation for Economic Co-operation and Development (OECD) aims “to produce better outcomes for youth in the longer run by equipping them with relevant skills and removing barriers to their employment.” (OECD, 2013, p.2). In light of this, but also in light of national attempts to improve school-to-work transitions of youth (e.g., Dutch ambassador for Youth Unemployment, 2013-2015), it is worthwhile to delineate the practical implications of this dissertation.

Findings in this dissertation suggest several ways for individuals to enhance an active and successful job search process. First, job seekers may increase their job search behavior by developing self-control skills that are helpful for job searching. Elements that may be trainable and helpful include the ability to control impulses (Muraven, 2010), to initiate action (Bode et al., 2007), and to persevere (Duckworth, Peterson, Matthews, & Kelly, 2007). Also, job seekers could implement habitual forms of job searching, like subscribing for vacancy alerts, instantly updating one’s CV when relevant changes occur, and routinely discussing job searching with friends and

teachers. These habitual forms seem effective while they require little effort (Verplanken, 2006). Currently, the most effective tool in developing habits is the use of implementation intentions (Gollwitzer, 1999; Brandstätter, Lengfelder, & Gollwitzer, 2001). With implementation intentions, people formulate so-called if-then plans, which link self-defined situations to self-defined action. For example, 'if I come across a vacancy, I print it and put it on my wardrobe'. Implementation intentions create a mental link between the situation and action, which makes it less effortful to act upon intentions. This way, they may also be helpful among prospective graduates who intend to search for employment.

Individuals also benefit from proactive behavior. Proactive job seekers were more likely to reap the benefits of opportunities and to reduce the negative impact of obstacles. This may in part require an optimistic orientation, in which obstacles are experienced as challenges. Such a mindset may be trainable; for example by a self-regulatory strategy called mental contrasting (Kappes, Singmann, & Oettingen, 2012; Oettingen, 2000). On a more behavioral level, it may require to act upon a plan that also takes future obstacles and opportunities into account. The GOOOAAL memory aid presented in Chapter 8 may hold promise in this regard (Bode et al., 2007; Thoolen et al., 2009), but this first requires more empirical scrutiny among samples of job seekers.

Despite the importance of proactively acting upon the future, the dissertation points to a subtle balance between preparing well for anticipated events, which increases its pay-off, while simultaneously leaving room to act upon unanticipated events. Such flexibility may be especially needed in the 21<sup>st</sup> century, in which coping with insecurity has become integral part of everyday life (Savickas et al., 2009). Flexibility may be represented in resilient personalities, but there is also potential for training skills for flexibility. Ways to improve such skills currently receive increasing attention in both science and practice (Allen & van der Velden, 2013; Bellanca & Brandt, 2010; Trilling & Fadel, 2009).

One way to regulate the job search process while simultaneously remaining flexible for unanticipated events is by involving social contexts. On the one hand, it was shown that merely having access to social relations is helpful, both in terms of employment chances and the experience of unanticipated chance events. We also showed that job seekers especially benefit from interaction with social relations if they have proactively prepared for such interaction. Training in social networking may foster the acquisition of skills that help to strategically develop and use social networks to capitalize on these resources. Such training could be extended beyond the individual job seekers, as VET teachers and career counsellors have access to a social network in their sector that may be helpful in obtaining employment for the graduates as well. The increased attention for social networking in secondary and post-secondary education in the Netherlands, both directed toward students and teachers (VO Raad, 2014; LOB4MBO, 2014), is hopeful in this regard.



The social environment can do more than providing instrumental help (e.g., information) in the job search process. For example, friends, parents and teachers may affect the perception of job seekers' social context, which in turns predicts how they behave. Especially among those sensitive to socio-contextual factors, a more negative work norm in the ethnic group as well as the anticipation of discrimination predicted less intensive job searching. Possibly, these work norms and anticipated discrimination are perceived as more negative than needed, leading to unintended self-fulfilling prophecies (Perkins, 2007). If the social environment can paint a realistic picture as to what job seekers ought (not) to expect while searching for a job, they may not feel discouraged in their job search process by unrealistic beliefs and obstacles. This can be achieved by contrasting youths' beliefs with the beliefs of others or with factual information (e.g., discrimination statistics). Such an approach has yielded positive results in changing individual beliefs in the context of alcohol use (Neighbors, Larimer, & Lewis, 2004) and it may hold promise in the area of job searching as well.

In sum, schools can help youth to develop skills, resources, and a mind-set that help to shape the job search process to youth' needs, to create and capitalize on potential opportunities, and to deal effectively with potential obstacles.

### **Final conclusion**

The current dissertation set out to explain differences in school-to-work success of VET graduates. In particular, VET graduates were followed from their final year in VET until three years later to track their job search behavior and employment chances. Following from a person-in-context framework, findings indicate that the school-to-work transition is a process in which success is dependent on both the individual job seekers and their social contexts. Despite differences in the opportunities for success that come about through their social contexts, we identified several ways in which VET graduates coped with contextual obstacles and opportunities to shape their job search process to their goals. Indeed, the current dissertation shows the importance of job seekers (pro)actively shaping their school-to-work transition.



# Appendix

School2Work data collection

Baay, P. E., Buers, C. C. E., & Dumhs, L.  
All authors contributed equally.

The current Appendix describes the data collection procedure of the School2Work panel, which is used in most of the empirical chapters in the current dissertation (i.e., Chapters 2, 3, 4, 5, and 7). Reasons for designing the current dissertation and reasons for designing the School2Work project largely overlap. As these reasons have been extensively discussed in Chapter 1, they are only mentioned briefly here:

- Youth and young adults have a relatively vulnerable labor market position in terms of unemployment rates (Eurostat, 2012; OECD, 2008; U.S. Department of Labor, Bureau of Labor Statistics, 2014) and precarious forms of employment (ILO, 2012; Kalleberg, 2000; OECD, 2008; Quintini, Martin, & Martin, 2007).
- Vulnerable labor market positions are undesirable for individuals in terms of well-being (McKee-Ryan & Harvey, 2011; McKee-Ryan, Song, Wanberg, & Kinicki, 2005) and, at least for the short-term<sup>1</sup>, career outcomes (Blossfeld, Bucholz, Bukodi & Kurz, 2008; Burgess et al., 2003; de Lange, Gesthuizen, & Wolbers, 2013; Gebel, 2010; Schmelzer, 2011; Steijn et al., 2006).
- Organizations and society as a whole also benefit from successful school-to-work transitions (Morisson, 2002). This is also evident from the national (e.g., Taskforce Youth Unemployment (2003-2007); ambassador for Youth Unemployment (2013-2015) as well as international attention for youth employment chances (Action Plan for Youth; OECD, 2013).
- Especially lower and middle educated job seekers are at risk of unemployment (Burgess et al., 2003; Gebel 2010; de Lange et al., 2013; Statistics Netherlands, 2014). Despite their relatively vulnerable labor market position, and despite vocational education and training students representing the largest group of students in the Netherlands, they have remained relatively understudied (Kanfer, Wanberg, & Kantrowitz, 2001; Ng, Eby, Sorensen & Feldman, 2005).

Based on these arguments, the School2Work project has set up a project to investigate the school-to-work transition of vocational education students in the Netherlands.

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<sup>1</sup> There is an ongoing debate regarding the time frame of the career consequences. Some scholars have demonstrated that a precarious start in terms of unemployment or having a job in the secondary segment of the labour market has long-lasting negative consequences for the career of young workers (Burgess, Propper, Rees, & Shearer, 2003; Steijn, Need, & van Gesthuizen, 2006). In contrast to this so-called entrapment scenario, others studies have concluded that flexible employment at labour market entry may also function as a step toward more permanent employment in the further career of young adults. They show that the negative effects associated with flexible employment diminish after five years in the labour market (de Graaf-Zijl, van den Berg, & Heyma, 2011; Gebel, 2010).

## Vocational education and training (VET) in the Netherlands

The School2Work project focuses on youth in VET in the Netherlands. This type of training prepares students in more than 700 VET programs for a wide variety of occupations ranging from, for example, hairdressers and mechanics to nursing assistants and administrative staff.

After primary education, most students enroll in pre-vocational education (VMBO; 50%), senior general vocational education (HAVO; 24%), or pre-university education (VWO; 20%).<sup>2</sup> Students graduating from pre-vocational education typically continue with intermediate secondary vocational education (MBO) (Dutch Ministry of Education, Culture, and Science, 2012). Approximately 51% of all students who left the educational system after graduating from post-secondary education in 2012 did so with a VET degree (Dutch Ministry of Education, Culture, and Science, 2012). In the labor force, approximately 43% holds a VET degree (Statistics Netherlands, 2014). In sum, VET is the largest educational track in the Netherlands and, consequently, the most frequent preparation for labor market entrance.

VET is offered at four levels and in two learning pathways. Students can follow a school-based pathway (BOL) in which practical training takes up 20% to 60%. Students can also follow a workplace-based pathway (BBL) in which learning in the classroom is limited to one day per week and practical training takes up more than 60% of the time. Given the close link between school and labor market for students enrolled in a workplace-based pathway, these students generally experience a smoother school-to-work transition than students enrolled in a school-based pathway. This notion is empirically supported by lower unemployment rates among BBL graduates (12%), compared to BOL graduates (22%) (ROA, 2013). In the School2Work project, we therefore focus on students enrolled in the school-based pathway (BOL).

VET programs are offered at four levels of training: the assistant level (“level 1”; 5%), basic vocational level (“level 2”; 25%), full professional level (“level 3”; 27%), and specialist level (“level 4”; 43%) (Statistics Netherlands, 2014). From level 2 onward, graduation completes education at this particular level and graduates can start working or continue in a higher level of training. Graduates from the highest (specialist) level can continue in tertiary vocational education (HBO).

In the School2Work project, we focus on students enrolled in the basic vocational level (level 2) or higher, since students enrolled in the assistant level (level 1) are formally not qualified for the labor market.<sup>3</sup> Moreover, additional research reports of the School2Work project that focused on assistant level students have shown that they

<sup>2</sup> For a more detailed overview of the educational system in the Netherlands, see <http://www.uis.unesco.org/Education/ISCEDMappings/Pages/default.aspx>

<sup>3</sup> MBO level 1 corresponds to the international ISCED level 254, lower secondary education or second stage basic education, which is not yet considered a preparation for the labor market (Statistics Netherlands, 2011). The qualification requirements of the Dutch educational system require a person under the age of 18 with a level 1 diploma to continue education (extension of compulsory education).

have different characteristics and they experience different school-to-work transitions (Baay & Schipper, 2014; Baay & van Pinxteren, 2014).

### **Project structure**

The general aim of the School2Work project is to identify factors that explain individual differences in the school-to-work transition and early career among students enrolled in VET. To identify relevant factors that influence young adults' early career chances, we combine insights from the disciplinary perspectives of psychology, sociology, economics, and public administration & organization science.

While economic theory looks at human capital and supply/demand conditions to explain employment chances, psychological theories concentrate on personality features (motivation and self-control) to explain individual differences in school-to-work transition success. The sociological perspective adds the effect of social capital (networks, social contacts), while an institutional approach would focus on institutional and legal arrangements (making available information, social security, minimum pay law and services from intermediate organizations like job agencies and UWV) to explain young people's search behavior and the match between individual capabilities and job requirements. These partial approaches result only in partial answers. The multidisciplinary School2Work project combines these disciplinary insights in order to gain a better understanding of the mechanisms that contribute to a successful school-to-work transition.

In addition to the multidisciplinary perspective, the School2Work project contributes to the literature by examining within-group differences. While most studies have taken a comparative perspective by examining differences between educational groups or countries, within group variation is often disregarded. Hence, the School2Work project contributes to current literature by focusing on differences among young semiskilled workers.

### **Sub-projects**

The first sub-project (with Pieter Baay as primary researcher) centers on the question how people in the job search process can take advantage of who they are. Assets that are studied in this sub-project are both ascribed (e.g., ethnic background) and achieved (proactive coping skills); individual (e.g., self-control, personality) and contextual (e.g., social networks). The common ground in these assets is that prior studies have shed relatively little light on mechanisms through which these factors influence the job search process. In a set of studies, we borrow from psychological and sociological theories to propose ways through which job seekers can take advantage of these characteristics.

The second sub-project (with Lisa Dumhys as primary researcher) investigates the role of student's resources in facilitating a smooth transition from school to work, taking into account material (parental allowances, wages, savings) as well as immaterial (counselling, information) resources. The role of financial resources, such as

unemployment benefits, for labor market outcomes is well-established for adult unemployed job seekers, but, so far, little is known about the actual resources available to VET students as well as their impact on the labor market entry success.

The third sub-project (with Corine Buers as primary researcher) focuses on the interplay between young adults and (training) organizations that employ them. More specifically, this project aims to explain differences in the early career of young VET graduates by examining the behaviors of employers and young adults. To investigate this issue, a set of studies considers the role of enacted human resource policies, managers' employment decisions and the experiences of young adults in (training) organizations. In contrast to previous work on early careers, both the perspective of employers (i.e., the demand-side of the labor market) and the perspective of young adults (the supply-side of the labor market) are taken into account to explain differences in the attainment of young adults.

### Preparation for data collection

#### Study design

To follow the school-to-work transition of VET students a longitudinal survey was designed. Despite that longitudinal data allow to study the school-to-work transitions as a process over time that starts before and continues well after graduation, one important concern, especially with this particular target population, is relatively low response rates over time. Also, panel attrition may be selective, possibly leading to biased results. Similarly, while computer-administered surveys have advantages, such as shorter transmitting time, lower delivery cost, more design options, less data entry time and easy participation for frequent computer users such as young adults (Israel, 2011; Couper, 2000), they also suffer from lower and possibly more biased results compared to traditional postal or phone surveys (Manfreda, Bosnjak, Berzelak, Haas, & Vehovar, 2008; Shih & Fan, 2008; Nulty, 2008; Couper, 2000). To illustrate, a meta-analysis of Manfreda et al.(2008) showed that response rates of web-based surveys are approximately 11% lower than that of other survey modes. We detail below which strategies were used in the current project to deal with (possibly selective) panel attrition, which might be enhanced by the use of computer-administered surveys in this longitudinal project.

Manfreda et al. (2008) emphasize that response rates are highly dependent on the design and delivery of the survey. They state that studies comparing the response rates of computer-based surveys and other survey modes have produced rather inconsistent results due to the different sampling strategies, survey designs/ modes, study attributes and study samples. This implies that response rates are highly depended on the study context and can be influenced by careful implementation. We used various insights regarding (1) survey design and (2) survey delivery to arrive at acceptable response rates for our study group (Fan & Yan, 2010; Shih & Fan, 2008; Porter & Whitcomb, 2003; Cook, Heath & Thompson, 2000).

Survey design refers to the presentation and the content of the survey, while survey delivery refers to the contact with and the delivery of the survey to potential respondents. The presentation of the survey, which refers to wording, question ordering, question display (lay-out), etc., should help respondents to fill out the questionnaire and thus increase response rates and survey completion. With respect to the content of a questionnaire, Fan and Yan (2010) mention in particular the importance of official sponsorship - response rates tend to be higher when surveys are sponsored by academic or governmental agencies -, a highly salient topic and questionnaire length.

Building on to these insights, we paid particular attention to the presentation, especially to the comprehensibility of the questions and the question display. Previous studies have shown that comprehensibility is important for the quality of the answers and that participants are discouraged to continue if they have difficulties understanding the questionnaire (Buers et al., 2014; de Leeuw, Hox & Huisman, 2003; Tourangeau, Rips & Rasinki, 2000). Given the large differences in language proficiency in our sample - varying between CEF A1 to B2 (Onderwijsinspectie, 2013) - comprehensibility was particularly important. When formulating new items and adjusting existing scales, we built on suggestions from experts in the field (e.g., Bureau of Language of the Expert Center for Vocational Education; MBO Diensten) and prior work on questionnaire development (e.g., Buers et al., 2014; Tourangeau et al., 2000). The experts' general advice was to formulate clearly, specifically and neutrally. Additionally, they provided specific suggestions on formulating questions and response categories. With regard to the formulation of questions, we were encouraged to: 1) Formulate short and active sentences (10-15 words), 2) Adjust the language level to the target group (level A2) and avoid jargon and abstract concepts (i.e., ask about concrete behaviors), 3) Limit the use of negatively formulated items (e.g., "I do not want others to think I am lazy"), 4) Limit the use of brackets, commas, and bold words, and 5) Start sentences with the main concept/ topic. With regard to formulating response categories we were encouraged to: 1) List answering categories in a logical order and formulate them consistent with the question, 2) Aim to cover all possible answers, 3) Ensure that numbering of answer categories is consistent across scales. Besides taking account of these recommendations, pop-up text boxes were used to provide explanations for words potentially unfamiliar to the respondents, such as "disposable income" or "timid".

The *lay-out of the questionnaire* as well as the graphical presentation of the questions can affect attractiveness and comprehensibility, both closely linked to response rates (Fan & Yan, 2010; Couper, 2000; Dillman & Bowker, 2001). One difficulty with computer based surveys as compared to paper forms is the inability for respondents to "see the whole". This can be discouraging and cause people to quit before completion. Previous studies analyzing the use of an indicator to track progress throughout the questionnaire (Fan & Yan, 2010) found mixed (positive, as well as negative) effects and we accordingly looked for a different solution. We choose to present the questionnaire



structure upfront in the introduction<sup>4</sup>, with reminders at the start of each individual section. Also, to address that respondents tend to prefer variation, we alternated between fixed categories (e.g., a 7-point Likert scale) and vertical bars with a continuous scale between fixed end-points (e.g., 0. Strongly disagree, 100. Strongly agree). With regard to technical issues involving screen-by-screen or scrolling survey layouts, we realized that many of our respondents fill out the survey on their mobile phone, so we limited scrolling by presenting a maximum of four items below each other.

In addition to the comprehensibility of the questionnaire and the question display, we used insights from survey research regarding the questionnaire *length*, *salience of the topic* and informing students about questionnaire sponsoring (Fan & Yan, 2010; Cook et al., 2001). While the length of a survey is generally found to have a negative linear relationship with response rates, this might not be the case for topics of high salience. As the school-to-work transitions relate to the near future for participants, the questionnaire dealt with a salient topic and we tried to emphasize the importance during conversations, introduction and reminders. Nevertheless, efforts were made to limit the questionnaire length by focusing on central concepts and preferring scales with limited numbers of items. Furthermore, in line with the notion that people are more willing to participate in studies organized by governmental and non-profit organizations (Fan & Yan, 2010), we informed students face-to-face and in every contact that this project is a collaboration between an academic institute (Utrecht University) and their vocational education and training (VET) institute.

Studies examining factors relating to the delivery of the survey have identified various factors that could impact the response rates such as the types and number of contacts, design of invitations (personalization, automatic or password protected access), and incentives. The number of contacts such as pre-notifications, invitations and reminders - appear to increase response rates, especially when these are personalized. While e-mail is the main means of contacting potential respondents, alternative delivery modes (e.g., mail, telephone, and short messaging service) or mixed modes surveys are increasingly used. Up to date, it has not been discovered if the mode of contact matters. Incentives could also increase the response rates for specific situations, but their effect seems to be varying with types, timings, and amount of incentives (see for an overview Fan and Yan, 2010).

In line with these studies, we undertook various attempts to adjust the delivery of the survey, paying particular attention to *personalized contacts* and invitations. Before starting the survey, students were informed by researchers present in the classroom about the School2Work project. Researchers and research assistants tried to establish a firm basis for long-term cooperation by personally explaining the aim of the project

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4 Mentioning the number of sections and their ordering and context in everyday language (e.g. first we have some questions about you, then about your study, then about your future, and finally some questions about your social network).

and answering students' questions in the classroom. They also distributed candy to make sure that the School2Work project had some positive memory attached to it – and to provide the students with a short-term energy boost which was much needed after half an hour of answering questions. As an *incentive to participate* in each online wave after graduation, all respondents who finished the questionnaire partook in a lottery, which raffled an iPad as primary prize and several gift certificates as secondary prizes. Efforts were made to remind the students of the project also between waves. Between the first and second wave, individual personality profiles including a comparison with the average student's profile of their school were sent to the participants. Regular project updates along with other related information and promotion videos were posted on Facebook and announced via Twitter.

### **Testing**

After designing the questionnaire (and before distributing the survey), experts in the field were asked to check the survey on clarity of the questions/response categories and time needed to complete the survey. This group of 'evaluators' consisted of (1) scholarly experts in the field of psychology, economics, sociology and human resource management; (2) researchers employed by the Expert Center for Vocational Education and (3) teachers in VET. They provided comments and additional suggestions to adjust the School2Work questionnaires in order to balance scientific requirements (validated scales) and cooperation from our target group (comprehensibly and feasibility).

Furthermore, a pilot study was conducted among 136 vocational students in May, 2011. Based on this pilot study, final changes were made and the final version of the questionnaire was put online.

### **School2Work questionnaire**

The School2Work questionnaires covered different topics. To study changes in a construct from one period to another, most items were measured at least at two waves; see Table A.1 for an overview.

## **Procedure and statistics**

### **Data collection: waves and procedures**

Data for the School2Work project were collected in five waves of interviews that were conducted between October 2011 and December 2014 among students from one VET institute [ROC]. This school is situated in the center of the Netherlands and provides training in several hundred different vocations on all four levels of intermediate vocational education. Organized in twelve different colleges, the

Table A.1 Questionnaire topics per wave

Categories	Waves				
	T1	T2	T3	T4	T5
General	Demographics Socio-economic background Living situation Work experience Big Five Personality Self-control Work identity Work motivation Work norms Job search	if absent at T1 if absent at T1 x x x x x x x x x Career exploration	x	x	x
Attitudes & Behaviors			x x Organizational citizenship behavior Job performance	x x x x	x x x x
Expectations & Experiences	Plans after graduation	x Career expectations Job and income expectations	x x x x x	x x x x x	x x x x x
Resources	Social network Income Career guidance	x x	x x x x	x x x x	x x x x
Career- & Labor market outcomes		Support at internship/work	x Labor market situation Job characteristics Career success Employability	x x x x x	x x x x x
Institutional characteristics	Educational	x Internship/Work	x x	x x	x x

trainings cover fields as diverse as automotive, beauty and healthcare. In 2011-2012, approximately 10,000 students were enrolled in all school-based VET programs on all levels combined in this particular school (ROC Midden Nederland, 2011).

The data collection started in the school year 2011/2012, and all last-year students enrolled in school-based training programs from at least level two were invited to participate in the series of questionnaires over a period of three years, thus covering the last phase of training and the first years of work-life or higher education. In total, more than 2,000 students filled out at least one of five questionnaires. Figure A.1 provides an overview of waves and response information.

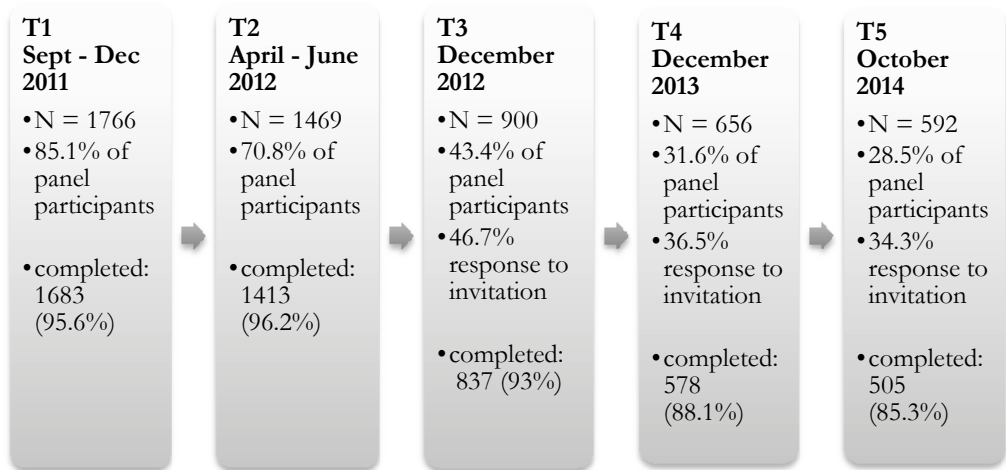


Figure A.1 Overview School2Work data collection waves: participation and response rates

Note: T5 response rates are preliminary as data collection had not finished at the time of making this figure

The first two questionnaires were completed in school - at the start of the last year of training (T1) and shortly before graduation (T2). The researchers and research assistants made appointments with teachers to visit the students at school during a regular class. After a short introduction on the project and the questionnaire, students completed the digital questionnaires individually; a personal login code was used to allow for matching of the different waves. Students were free to provide contact details to allow invitation to the last three rounds of questionnaires, and the majority of the participants of T1 and/or T2 did (93.6%).

Depending on class size<sup>1</sup>, one or multiple researchers or research assistants were present while students completed the questionnaires to assist them with any difficulties computer-related and otherwise; to clarify issues concerning the questions asked in the

<sup>1</sup> The ratio student – researcher was approximately 10 – 1.

questionnaire and to answer questions about the project. Sometimes students needed special assistance such as reading the questions aloud to them to help them stay focused on the task or to overcome general reading difficulties. Often students needed encouragement to continue, as the questionnaires took 35 minutes on average to complete. These first two questionnaires were long as they covered a wide range of topics (see Table A.1).

The follow-up questionnaires (T3 to T5) were completed online, since the majority of the students had already finished their training. Consequently, those questionnaires were considerably shorter, covering mainly the current situation of the respondent (see Table A.1 for details). Most students had provided contact details with the first two interviews, such as e-mail-addresses, telephone numbers, home addresses, or social media account information (Facebook, Hyves). Initially, invitations for the third, fourth and fifth interview were sent out by e-mail. The invitation was repeated in the form of three e-mail reminders sent out over six weeks' time. Respondents who did not respond to the e-mails were approached by phone. During the first online wave (T3), invitations were also repeated in messages via social media and traditional mail, using all the information respondents had previously provided. In addition, the school agreed to send out an invitation in their own name, asking their former students to contribute to the School2Work project by completing the questionnaire. However, while personal invitations through telephone were generally received well by participants – approximately half of the completed questionnaires were filled out after the respondent had been spoken with on the phone-; the other methods proved ineffective and were not employed in wave four and five. In total, 1944 respondents were invited by mail at T3 (1818 at T4 / 1727 at T5), 636 (1034) were contacted by telephone; in addition, 140 letters and 60 social media messages were sent during T3.

Due to the organization of VET in the Netherlands, the clear set-up of the interview waves - two in-school rounds (T1 at the beginning of the last year, T2 close to graduation) and three after-school rounds of questionnaires (6, 12 and 24 months post-graduation) – were not attained for a large share of the project participants. VET is organized on an individual basis, so no school-wide graduation date exists. Especially in smaller VET programs, each participant graduates as soon as all requirements are completed. Therefore, a number of students had already left school when they were approached for T2 in May, 2012<sup>2</sup>. They were asked to complete the wave-3 questionnaire (167 respondents did). At the time of T3 (December, 2012), those respondents were invited to complete the wave-3 questionnaire again, together with the rest of the panel (107 complied). Conversely, a number of students were still in their original training when they were approached for T3 in December, 2012, those

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<sup>2</sup> There was a group of students that had not finished their training when approached for T2, but were absent nonetheless for other reasons, such as internships or illness. Those students were invited to complete the wave 2 questionnaire online (by email and in some cases, through their teachers); 206 students complied.

were asked to complete the wave-2 questionnaire (again) instead (139 students). To attain a comparable sample for the before- and after-graduation waves for data analysis, the latest observed pre-graduation questionnaire (wave-2 at either T2, T3 or T4) as well as the first observed post-graduation questionnaire (wave-3 at either T2, T3 or T4) should be combined to produce one wave.

## Sample statistics

### *Descriptives*

The School2Work panel consists of 2076 individuals, 45% is male and 63% is Dutch (i.e., both parents were born in the Netherlands). Table A.2 shows sample statistics for the School2Work panel as well as population statistics for VET students in the region and country. A comparison of the sample and population statistics reveals that the School2Work panel is largely representative of Dutch students who participate in VET. The School2Work sample is older, which makes sense given the focus on students in their final year.

Table A.2 Comparison sample- and population statistics

	School2Work sample (2011-2012)	School-based vocational students in region (2011-2012)	School-based vocational students in country (2011-2012)
Age	20.6 years	<i>No info available</i>	18.8 years
Gender			
Male	45.3%	47.5%	48.0%
Female	54.7%	52.5%	52.0%
Ethnicity			
Dutch	63.4%	58.4%	70.2%
2nd gen non-Dutch	23.1%	29.8%	20.9%
1st gen non-Dutch	13.5%	11.8%	8.9%
Level of training			
Level 2	17.5%	19.6%	18.4%
Level 3	23.4%	24.8%	24.7%
Level 4	59.1%	55.5%	56.9%

*Note.* Population statistics are derived from Statistics Netherlands (2014).

Participation in the different waves varied considerably. Specifically, 21.6% of the panel (449 respondents) completed all four interviews conducted so far. The largest group (655 students, 31.6%) only filled in one of the questionnaires (T1 or T2); a smaller fraction (27.2%, 565 people) took part in two rounds; and 19.6% (407) participated in three waves. An overview of sample sizes and response rates for each wave is given in Figure A.1.

Panel attrition has two main causes: not succeeding to reach participants and participants refusing to participate upon contact. As mentioned, 6.4% did not provide any contact information in the first two rounds and could not be contacted again. Some

contact information was no longer accurate at the time of trying to approach respondents (7%). Of those that should have received an invitation, more than 46% (T3) and more than 36% (T4) participated, which compares favorably with response rates usually found in web-based surveys (34% according to Shih & Fan, 2008). Comparable research among VET students in the Netherlands yielded response rates between 15% and 25% (ROA, 2014). The fifth round has not ended yet (October, 2014), but we can preliminarily estimate that response will approximate 30%. We will complete the report as data become available. The next section deals with panel attrition analysis, establishing whether attrition has led to bias in the School2Work data.

### *Representativeness*

Although we made various efforts to increase response rates, researchers have also argued that coverage and response representativeness are more important than response rates to prevent nonresponse biases that could result in misleading information on a topic (e.g. Cook et al., 2000). While response rates are important if it bears on representativeness, underrepresentations of specific groups - such as the lower educated - (Goyder, Warriner & Miller, 2002; Dillman, 1978) could jeopardize the validity of survey research.

To establish the representativeness of the School2Work panel for the population studied, sample statistics are compared to the characteristics of the overall population of vocational students in the region (Table A.2). Overall, the School2Work panel matches the target population closely.

The main concern with panel attrition, apart from sample size considerations, is the risk of biased results due to self-selection in the longitudinal sample of people with certain personal characteristics. To establish the extent to which self-selection bias has occurred in the School2Work project, effect sizes and significance levels were computed for the association between participation in each wave on the one hand, and all major control and outcome variables on the other hand (Table A.3). In general, the tests revealed no indication for severe selection bias due to voluntary participation. Even though significance testing revealed several significant relations, these are partly due to the large sample size. All effect sizes were smaller than .20, which is considered a small effect (Cohen, 1992). Effect sizes were largest with personal characteristics, such as ethnicity (.19) and level as well as sector of education (.18). Importantly, status at time of the previous questionnaire (i.e., being unemployed, employed, self-employed, in education, or else) can be ruled out as an important predictor of survey participation as effect sizes do not exceed .11. These relatively low effects sizes between participant characteristics and survey participation suggests that there is no severe self-selection bias in the School2Work data, which makes results better generalizable to the target population of VET graduates in the Netherlands.

Table A.3 Attrition analyses per wave

	Wave 1	Wave 2	Wave 3	Wave 4
Age	.05	.05	.08	.04
Parental education	.07	.22***	.05	.16***
Ethnic minority (0) / Majority (1)	.06**	.05*	.13***	.19***
Dropout T-1			.04	.02
Educational level T-1			.05	.02
Male (0) /Female (1)	.00	.11***	.11***	.06**
NEET T-1			.01	.04
Having some job T-1		.01	.03	.05
Unemployed T-1			.11	.07
Western (0) /non-Western minority (1)	.06	.06	.04	.03
Educational level before School2Work	n/a	.06	.11***	.12***
Educational level School2Work	.09**	.13***	.14***	.18***
Educational sector School2Work	.14***	.18***	.18***	.13***
Status T-1			.10*	.07

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

Note: Values represent Cohen's  $d$  or Cramer's  $V$  estimates.

T-1 refers to the wave before for which wave participation is calculated.

NEET = Not in Education, Employment or Training.



## Conclusion & acknowledgements

The School2Work project conducted a four-year longitudinal survey study among students enrolled in VET in the Netherlands. Selecting, administrating and collecting data from a panel is always challenging, especially if the budget is limited. The challenge becomes profound with this particular population, since response rates are generally lower among young people and those with lower levels of education. Paying close attention to survey design and survey delivery certainly helped to obtain a unique dataset providing insight into the school-to-work transitions of these young semiskilled workers, but we could never have done this without the help of the teachers and support staff of the school. They not only helped collecting the information needed to find the eligible students, but also helped carrying out the data collection by making (and keeping) appointments, organizing computer space, and motivating students when necessary.

The School2Work research team at Utrecht University (which consists of the three authors of the current paper as well as professors Marcel van Aken, Paul Boselie, Peter Leisink, Tanja van der Lippe, Frans Pennings, Janneke Plantenga, Denise de Ridder, and Joop Schippers) would like to thank a number of people explicitly: Robert Koch, who laid the groundwork within the schooling center where the data collection was started; Leonard Geluk, chairman of the board of directors, who provided all the institutional support necessary, and Peter Taffijn, who provided moral and administrative support. Also, our appreciation goes to Utrecht University's focus area Coordinating Societal Change (CSC) and Instituut GAK, who provided funding for this intensive project, which enabled us to employ several research assistants to motivate the respondents face-to-face and on the phone. Last but not least, we would like to thank our participants for their time and effort to fill out the questionnaires.



# References

## A

- Adriaanse, M. A., Kroese, F. M., Gillebaart, M., & de Ridder, D. T. D. (2014). Effortless inhibition: Habit mediates the relation between self-control and unhealthy snack consumption. *Frontiers in Psychology, 5*, 1-6.
- Aguilera, M.B. (2002). The impact of social capital on labor force participation: Evidence from the 2000 Social Capital Benchmark Survey. *Social Science Quarterly, 83*, 853-874.
- Allen, J.P., Porter, M.R., & McFarland, C.F. (2006). Leaders and followers in adolescent close friendships: Susceptibility to peer influence as a predictor of risky behavior, friendship instability, and depression. *Development and Psychopathology, 18*, 155-172.
- Allen, J., & van der Velden, R. (2013). Skills for the 21st Century: Implications for Dutch education, In: L.R. Smith (ed.), *Higher Education: Recent Trends, Emerging Issues and Future Outlook* (pp. 1-40). New York: Nova Science Publishers.
- Allport, G.W. (1954). *The nature of prejudice*. Cambridge, MA: Addison-Wesley.
- Altonji, J. G., & Pierret, C. R. (2001) Employer learning and statistical discrimination. *Quarterly Journal of Economics, 116*, 313-350.
- Angelusz, R., & Tardos, R. (2008). Assessing Social Capital and Attainment Dynamics: Position Generator Applications in Hungary, 1987-2003. In N. Lin, K. Cook, & R. S. Burt (Eds.), *Social capital: An international research program* (pp. 394-420). Aldine de Gruyter.
- Ambassador for Youth Unemployment (2013). *Government makes €50 million extra available to fight youth unemployment*. Retrieved from: <http://www.government.nl/news/2013/03/07/government-makes-50-million-extra-available-to-fight-youth-unemployment.html>
- Asendorpf, J.B., & van Aken, M.A.G. (1999). Resilient, overcontrolled, and undercontrolled personality prototypes in childhood: Replicability, predictive power, and the trait-type issue. *Journal of Personality and Social Psychology, 77*, 815-832.
- Asendorpf, J. B., van de Schoot, R., Denissen, J. J., & Hutteman, R. (2014). Reducing bias due to systematic attrition in longitudinal studies: The benefits of multiple imputation. *International Journal of Behavioral Development, 38*, 453-460.
- Ashford, S. J., & Black, J. S. (1996). Proactivity during organizational entry: The role of desire for control. *Journal of Applied Psychology, 81*, 199-214.
- Aspinwall, L. G., & Taylor, S. E. (1997). A stitch in time: Self-regulation and proactive coping. *Psychological Bulletin, 121*, 417-436.
- Asscher, J., Deković, M., van der Laan, P. H., Prins, P. J. M., & van Arum, S. (2007). Implementing randomized experiments in criminal justice settings: An evaluation of multi-systemic therapy in the Netherlands. *Journal of Experimental Criminology, 3*, 113-129.

**B**

- Baay, P.E., Buers, C.E., & Dumhs, L. (2014). School2Work: A longitudinal study of the transition from vocational education and training to the labour market in the Netherlands (Working paper). DOI: 10.13140/2.1.2511.8082
- Baay, P.E., Eccles, J.S., van Aken, M.A.G., van der Lippe, T., & de Ridder, D.T.D. (2014). Harder, better, faster, stronger: Understanding the "pro" in proactive behaviors during school-to-work transitions. Manuscript submitted for publication.
- Baay, P.E., & Schipper, M.C. (2014). *School2Work report difficult learners: (Labor market) situation of difficult learning students and alumni*. Research report by order of regional vocational training institute ROC Midden Nederland.
- Baay, P.E., van Aken, M.A.G., de Ridder, D.T.D., & van der Lippe, T. (2014). Understanding the role of social capital in adolescents' Big Five personality effects on school-to-work transitions. *Journal of Adolescence*, 37, 739-748.
- Baay, P.E., van Aken, M.A.G., van der Lippe, T., & de Ridder, D.T.D. (2014). Personality moderates the links of social identity with work motivation and job-searching. *Frontiers in Psychology*, 5: 1044.
- Baay, P.E., & van Pinxteren, R. (2014). *School2Work report level 1 students: (Labor market) situation of level 1 students and alumni*. Research report by order of MBO Diensten.
- Bandura, A. (1998). Health promotion from the perspective of social cognitive theory. *Psychology and Health*, 13, 623-649.
- Bandura, A. (1982). Self efficacy mechanism in human agency. *American Psychologist*, 37, 122-147.
- Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (2006). Adolescent development from an agentic perspective. In F.Pajares & T. Urdan (Eds.). *Self-efficacy beliefs of adolescents* (Vol. 5., pp.1-43). Greenwich, CT: Information Age Publishing.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Barrick, M.R., Stewart, G.L., & Piotrowski, M. (2002). Personality and job performance: Test of the mediating effects of motivation sales representatives. *Journal of Applied Psychology*, 87, 43-51.
- Bartholomew, L. K., Parcel, G. S., Kok, G., Gottlieb, N. H., & Fernández, M.E.,(2011). *Planning health promotion programs; an Intervention Mapping approach*, 3rd Ed. San Francisco, CA: Jossey-Bass.
- Bateman, T. S., & Crant, J. M. (1993). The proactive component of organizational behavior: A measure and correlates. *Journal of Organizational Behavior*, 14, 103-118.
- Baumeister, R. F. Vohs, K. D. (2007). Self-regulation, ego depletion, and

- motivation. *Social and Personality Psychology Compass*, 1, 115-128.
- Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology*, 74, 1252-1265.
- Baumeister, R. F., Heatherton, T. F., & Tice, D. M. (1994). *Losing control: How and why people fail at self-regulation*. San Diego, CA: Academic Press.
- Bellanca, J., & Brandt, R. (Eds.) (2010). *21st century skills: Rethinking how students learn*. Bloomington, IN: Solution Tree.
- Berg, J. M., Wrzesniewski, A., & Dutton, J. E. (2010). Perceiving and responding to challenges in job crafting at different ranks: When proactivity requires adaptivity. *Journal of Organizational Behavior*, 31, 158-186.
- Berggren, N., Bloniewsky, T., & Derakshan, N. (2013). Enhanced visual detection in trait anxiety under perceptual load. Perception 42 ECVP Abstract Supplement, page 243.
- Betsworth, D. G., & Hansen, J. I. C. (1996). The categorization of serendipitous career development events. *Journal of Career Assessment*, 4, 91-98.
- Blanco, M. R., & Golik, M. N. (2014). Born under a lucky star? Latin American CEOs' perceptions about their own career development. *The International Journal of Human Resource Management*, (ahead-of-print), 1-24.
- Blau, G. (1994). Testing a two-dimensional measure of job search behavior. *Organizational Behavior and Human Decision Processes*, 59, 288-312.
- Block, J.H., & Block, J. (1980). The role of ego-control and ego-resiliency in the organization of behavior. In W. A. Collins (Ed.), *Development of cognition, affect, and social relations* (pp. 39-101). Hillsdale, NJ: Erlbaum.
- Blossfeld, H., Bucholz, S., Bukodi, E., & Kurz, K. (2008). *Young workers, globalization and the labor market: Comparing early working life in eleven countries*. Cheltenham, UK - Northampton, MA, USA: Edward Elgar.
- Bode, C., de Ridder, D.T.D., Kuijer, R. G., & Bensing, J. M. (2007). Effects of an intervention promoting proactive coping competencies in middle and late adulthood. *The Gerontologist*, 47, 42-51.
- Bode, C., Thoolen, B., & de Ridder, D. T. D. (2008). Het meten van proactieve Copingvaardigheden: Psychometrische eigenschappen van de Utrechtse Proactieve Coping Competentie lijst (UPCC) [Measuring proactive coping. Psychometric properties of the Utrecht Proactive Coping Competence scale (UPCC)]. *Psychologie & Gezondheid [Psychology & Health]*, 36, 81-91.
- Boswell, W. R., Zimmerman, R. D., & Swider, B. W. (2012). Employee job search toward an understanding of search context and search objectives. *Journal of Management*, 38, 129-163.
- Bowers, K. S. (1973). Situationism in psychology: An analysis and critique. *Psychological Bulletin*, 80, 307-336.
- Brandstätter, V., Lengfelder, A., & Gollwitzer, P. M. (2001). Implementation

- intentions and efficient action initiation. *Journal of Personality and Social Psychology*, 81, 946.
- Brass, D. J., Galaskiewicz, J., Greve, H. R., & Tsai, W. (2004). Taking stock or networks and organizations: A multilevel perspective. *Academy of Management Journal*, 47, 795-817.
- Bright, J. E., Pryor, R. G. L., Chan, E. W. M., & Rijanto, J. (2009). Chance events in career development: Influence, control and multiplicity. *Journal of Vocational Behavior*, 75, 14-25.
- Bright, J.E.H., Pryor, R.G.L., & Harpham, L. (2005). The role of chance events in career decision making. *Journal of Vocational Behavior*, 66, 561-576.
- Bright, J. E., Pryor, R. G., Wilkenfeld, S., & Earl, J. (2005). The role of social context and serendipitous events in career decision making. *International Journal for Educational and Vocational Guidance*, 5, 19-36.
- Brown, D. J., Cober, R. T., Kane, K., Levy, P.E., & Shalhoop, J. (2006). Proactive personality and the successful job search: A field investigation with college graduates. *Journal of Applied Psychology*, 91, 717-726.
- Brown, S.P. (1996). A meta-analysis and review of organizational research on job involvement. *Psychological Bulletin*, 120, 235-255.
- Buers, C. C. E. (2014). All is well that begins well? The behaviour of young vocational graduates and employers to explain chances for achieving sustainable labour market participation. Dissertation in preparation.
- Buers, C.C.E., Triemstra, M., Bloemendal, E., Zwijnenberg, N. C., Hendriks, M., & Delnoij, D. M. (2013). The value of cognitive interviewing for optimizing a patient experience survey. *International Journal of Social Research Methodology*, 17, Issue 4.
- Burchell, K., Rettie, R., & Patel, K. (2013). Marketing social norms: Social marketing and the 'social norm approach'. *Journal of Consumer Behaviour*, 12, 1-9.
- Burger, J.M., & Caldwell, D.F. (2000). Personality, social activities, job-search behavior and interview success: Distinguishing between PANAS trait positive affect and NEO extraversion. *Motivation and Emotion*, 24, 51-62.
- Burgess, S., Propper, C., Rees, H., & Shearer, A. (2003). The class of 1981: The effects of early career unemployment on subsequent unemployment experiences. *Labour Economics*, 10, 291-309.
- Burt, R. S. (1992). *Structural Holes: The Social Structure of Competition*. Cambridge, MA: Harvard University Press.
- Burt, R.S. (1998). The Gender of Social Capital. *Rationality and Society*, 10, 5-46.

## C

- Caldwell, D.F., & Burger, J.M. (1998). Personality characteristics of job applicants and success in screening interviews. *Personnel Psychology*, 51, 119-136.
- Calvo-Armengol, A., & Jackson, M. O. (2004). The effects of social networks on employment and inequality. *The American Economic Review*, 94, 426-454.

- Campbell, K. E., & Rosenfeld, R. A. (1985). Job search and job mobility: Sex and race differences. *Research in the Sociology of Work*, 3, 147-74.
- Carter, E. C., & McCullough, M. E. (2014). Publication bias and the limited strength model of self-control: has the evidence for ego depletion been overestimated?. *Frontiers in Psychology*, 5, 823.
- Caspi, A., & Roberts, B. W. (2001). Personality development across the life course: The argument for change and continuity. *Psychological Inquiry*, 12, 49-66.
- Caspi, A., & Silva, P.A. (1995). Temperamental qualities at age three predict personality traits in young adulthood: Longitudinal evidence from a birth cohort. *Child Development*, 66, 486- 498.
- Castilla, E. J. (2005). Social networks and employee performance in a call center. *American Journal of Sociology*, 110, 1243-1283.
- Castilla, E. J., Lan, G. J., & Rissing, B. A. (2013a). Social networks and employment: Outcomes (Part 2). *Sociology Compass*, 7, 1013-1026.
- Castilla, E. J., Lan, G. J., & Rissing, B. A. (2013b). Social networks and employment: Mechanisms (Part 1). *Sociology Compass*, 7, 999-1012.
- Chen, P. (2005). Understanding career chance. *International Journal for Educational and Vocational Guidance*, 5, 251-270.
- Chua, V. (2014). The contingent value of unmobilized social capital in getting a good job. *Sociological Perspectives*, 57, 124-143.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112, 155-159.
- Coleman, J.S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, 95-120.
- Coles, M., & Masters, A. (2000). Retraining and long-term unemployment in a model of unlearning by not doing. *European Economic Review*, 44, 1801-1822.
- Converse, P. D., Pathak, J., DePaul-Haddock, A., Gotlib, T., & Merbedone, M. (2012). Controlling your environment and yourself: Implications for career success. *Journal of Vocational Behavior*, 80, 148-159.
- Cook, C., Heath, F., & Thompson, RL (2000). A meta-analysis of response rates in web- or internet-based surveys. *Educational and Psychological Measurement*, 60, 6, 821-836.
- Costa, P. T., & McCrae, R. R. (1997). Personality trait structure as a human universal. *American Psychologist*, 52, 509-516.
- Costa, P.T. Jr., & McCrae, R.R. (1988). From catalog to classification: Murray's needs and the Five-Factor Model. *Journal of Personality and Social Psychology*, 55, 258-265.
- Costa, P.T. Jr., & McCrae, R.R. (1992). Reply to Ben-Porath and Waller. *Psychological Assessment*, 4, 20-22.
- Couper, M. P. (2000). Review: Web surveys: A review of issues and approaches. *Public Opinion Quarterly*, 64, 464-494.
- Crant, J. M. (2000). Proactive behavior in organizations. *Journal of Management*, 26, 435-462.



- Crant, J. M. 1995. The proactive personality scale and objective job performance among real estate agents. *Journal of Applied Psychology*, 80, 532-537.
- Crites, J. O. (1969). *Vocational psychology: The study of vocational behaviour and development*. New York, NY: McGraw-Hill.
- Crowell, A., Kelley, N. J., & Schmeichel, B. J. (2014). Trait approach motivation moderates the aftereffects of self-control. *Frontiers in Psychology*, 5: 1112.
- Cunha, M.P.E. (2005). Serendipity: Why some organizations are luckier than others. FEUNL Working Paper No. 472. Retrieved from: <http://ssrn.com/abstract=882782>.

## D

- de Galan, K. (2008). *From expert to trainer [Van deskundige naar trainer]*. Pearson Benelux B.V.
- de Graaf-Zijl, M., van den Berg, G. J., & Heyma, A. (2011). Stepping stones for the unemployed: the effect of temporary jobs on the duration until (regular) work. *Journal of Population Economics*, 24, 107-139.
- de Lange, M., Gesthuizen, M., & Wolbers, M. (2013). Consequences of flexible employment at labour market entry for early career development in the Netherlands. *Economic and Industrial Democracy*, 35, 413-434.
- de Leeuw, E. D., Hox, J., & Huisman, M. (2003). Prevention and treatment of item non response. *Journal of Official Statistics Stockholm*, 19, 153-176.
- de Ridder, D. T. D., de Boer, B. J., Lugtig, P., Bakker, A. B., & van Hooft, E. A. J. (2011). Not doing bad things is not equivalent to doing the right thing: Distinguishing between inhibitory and initiatory self-control. *Personality and Individual Differences*, 50, 1006-1011.
- de Ridder, D. T. D., Lensvelt-Mulders, G., Finkenauer, C., Stok, F. M., & Baumeister, R. F. (2012). Taking stock of self-control: A meta-analysis of how trait self-control relates to a wide range of behaviors. *Personality and Social Psychology Review*, 16, 76-99.
- Denissen, J.J.A., & Penke, L. (2008). Motivational individual reaction norms underlying the Five-Factor model of personality: First steps toward a theory-based conceptual framework. *Journal of Research on Personality*, 42, 1285-1302.
- Denrell, J., Fang, C., & Winter, S.G. (2003). The economics of strategic opportunity. *Strategic Management Journal*, 24, 977-990.
- Devine, T., & Kiefer, N. (1991). *Empirical labor economics: The search approach*. New York: Oxford University Press.
- Dew, N. (2009). Serendipity in entrepreneurship. *Organization Studies*, 30, 735-753.
- Diaz de Chumaceiro, C. L. (2004). Serendipity and pseudoserendipity in career paths of successful women: Orchestra conductors. *Creativity Research Journal*, 16, 345-356.
- Digman, J.M. (1990). Personality structure: Emergence of the Five-Factor Model. *Annual Review Psychology*, 41, 417-440.

- Dika, S. L., & Singh, K. (2002). Applications of social capital in educational literature: A critical synthesis. *Review of Educational Research*, 72, 31-60.
- Dillman, D. A., & Bowker, D. (2001). The web questionnaire challenge to survey methodologists. In U.-D. Reips & M. Bosnjak (Eds.), *Dimensions of Internet science* (pp. 159-177). Lengerich, Germany: Pabst Science.
- Dillman, D.A. (1978). *Mail and Telephone Surveys: The Total Design Method*. New York: John Wiley and Sons.
- Dubas, J.S. Gerris, J.R.M., Janssens, J.M.A.M., & Vermulst, A.A. (2002). Personality types of adolescents: concurrent correlates, antecedents, and type X parenting interactions. *Journal of Adolescence*, 25, 79-92.
- Duckworth, A. L., & Seligman, M. E. P. (2005). Self-discipline outdoes IQ in predicting academic performance of adolescents. *Psychological Science*, 16, 939-944.
- Duckworth, E., Peterson, C., Matthews, M. and Kelly, D. (2007). Grit: perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*, 92, 1087-101.
- Dumhs, L. (2014). Finding the right job: The impact of institutional and financial resources on the transition from school to work. Dissertation in preparation.
- Durlauf, S. N. (2002). On the empirics of social capital. *The Economic Journal*, 112, 459-479.
- Dutch Ministry of Education, Culture, and Science (2012). *Key figures 2008-2012*. Retrieved from: <http://www.rijksoverheid.nl/bestanden/documenten-en-publicaties/jaarverslagen/2013/05/08/ocw-kerncijfers-2008-2012/onderwijs-cultuur-en-wetenschap-kerncijfers-2008-2012.pdf>

## **E**

- Eccles, J.S. (2011). Gendered educational and occupational choices: Applying Eccles et al. model of achievement-related choices. *International Journal of Behavioral Development*, 35, 195-201.
- Eisner, M. (2009). No effects in independent prevention trials: can we reject the cynical view?. *Journal of Experimental Criminology*, 5, 163-183.
- Elliott, J. R. (2000). Class, race, and job matching in contemporary urban labor markets. *Social Science Quarterly*, 81, 1036-1052.
- Ellis, R. A., & Taylor, M. S. (1983). Role of self-esteem within the job search process. *Journal of Applied Psychology*, 68, 632-640.
- Enders, C. K. (2001). The performance of the full information maximum likelihood estimator in multiple regression models with missing data. *Educational and Psychological Measurement*, 61, 713-740.
- Enders, C. K. (2010). *Applied missing data analysis*. Guilford Press.
- Erdelez, S. (1999). Information encountering: It's more than just bumping into information. *Bulletin of the American Society for Information Science*, 25, 25- 29.
- Erdelez, S. (2004). Investigation of information encountering in the controlled

- research environment. *Information Processing and Management*, 40, 1013-1025.
- Erdelez, S., & Rioux, K. (2000). Sharing information encountered for others on the Web. *The New Review of Information Behaviour Research*, 1, 219-233.
- Erickson, B.H. (2001) Good networks and good jobs: the value of social capital to employers and employees. In N. Lin, K. Cook, & R. S. Burt (Eds.), *Social capital: an international research program* (pp. 127-158). Aldine de Gruyter.
- Eurostat (2012). *Unemployment statistics*.  
([http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Unemployment\\_statistics#Further\\_Eurostat\\_information](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Unemployment_statistics#Further_Eurostat_information)).

## F

- Fan, W., & Yan, Y. (2010). Factors affecting response rates of the web survey: A systematic review. *Computers in Human Behavior*, 26, 132-139.
- Faul, F., Erdfelder, E., Lang, A. G., Buchner, A. (2007). G\*Power 3: a flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39, 175-191.
- Ferguson, C. J., & Brannick, M. T. (2012). Publication bias in psychological science: Prevalence, methods for identifying and controlling, and implications for the use of meta-analyses. *Psychological Methods*, 17, 120.
- Fernandez, R. M., Castilla, E. J., & Moore, P. (2000). Social capital at work: Networks and employment at a phone center. *American Journal of Sociology*, 105, 1288-1356.
- Fernandez, R.M., & Weinberg, N. (1997). Sifting and sorting: Personal contacts and hiring in a retail bank. *American Sociological Association*, 62, 883-902.
- Fishbach, A., Friedman, R., & Kruglanski, A. (2003). Leading us not unto temptation: Momentary allurements elicit automatic goal activation. *Journal of Personality and Social Psychology*, 84, 296-309.
- Flap, H. D., & Völker, B. (2008). Social, cultural, and economic capital and job attainment: The Position Generator as a measure of cultural and economic resources. In N. Lin, K. Cook, & R. S. Burt (Eds.), *Social capital: an international research program* (pp. 65-80). Aldine de Gruyter.
- Flap, H., & Boxman, E. (2001). Getting started: The influence of social capital on the start of the occupational career. In: N. Lin, K. Cook, & R. Burt, R. (Eds.), *Social capital: Theory and research* (pp 159-181). New York: Aldine de Gruyter.
- Flap, H.D., & Völker, B. (2001). Goal specific social capital and job satisfaction: Effects of different types of networks on instrumental and social aspects of work. *Social Networks*, 23, 297-320.
- Forest, A. L., & Wood, J. V. (2012). When social networking is not working: Individuals with low self-esteem recognize but do not reap the benefits of self-disclosure on Facebook. *Psychological Science*, 23, 295-302.
- Forret M.L., & Dougherty, T.W. (2001). Correlates of networking behavior for

- managerial and professional employees. *Group & Organization Management*, 26, 283-311.
- Foster, A., & Ford, N. (2003). Serendipity and information seeking: an empirical study. *Journal of Documentation*, 59, 321-340.
- Franzen, A., & Hangartner, D. (2006). Social networks and labour market outcomes: The non-monetary benefits of social capital. *European Sociological Review*, 22, 353-368.
- French, S., Seidman, E., Allen, L., & Aber, J.L. (2006). The development of ethnic identity during adolescence. *Developmental Psychology*, 42, 1-10.
- Frese, M., Fay, D., Hilburger, T., Leng, K., & Tag, A. (1997). The concept of personal initiative: Operationalization, reliability and validity in two German samples. *Journal of Occupational and Organizational Psychology*, 70, 139-161.
- Frese, M., Kring, W., Soose, A., & Zempel, J. (1996). Personal initiative at work: Differences between East and West Germany. *Academy of Management Journal*, 39, 37-63.
- Fu, Y. (2008). Position generator and actual networks in everyday life: an evaluation with contact diary. In: N. Lin & B. Erickson (Eds.), *Social Capital: An International Research Program* (pp. 49-64). New York: Oxford University Press.

## G

- Gabbay, S.M., Leenders, R.Th.A.J. (Eds.), 2001. Social capital of organizations. In: Bachrach, S.B. (Ed.), *Research in the Sociology of Organizations*, 18. Elsevier, Oxford.
- Gailliot, M. T., & Baumeister, R. F. (2007). Self-regulation and sexual restraint: Dispositionally and temporarily poor self-regulatory abilities contribute to failures at restraining sexual behavior. *Personality and Social Psychology Bulletin*, 33, 173-186.
- Gardner, W., Mulvey, E. P., & Shaw, E. C. (1995). Regression analyses of counts and rates: Poisson, overdispersed Poisson, and negative binomial models. *Psychological Bulletin*, 118, 392-404.
- Gebel, M. (2010). Early career consequences of temporary employment in Germany and the UK. *Work, Employment & Society*, 24, 641-660.
- Gelissen, J., & de Graaf, P.M. (2006). Personality, social background, and occupational career success. *Social Science Research*, 35, 702-726.
- Gender and Achievement Research Program (2013). Information available at <http://www.rcgd.isr.umich.edu/pgc/>
- Gensowski, M., Heckman, J., & Savelyev, P. (2011). *The effects of education, personality, and IQ on earnings of high-ability men*. Chicago: The University of Chicago. Unpublished Manuscript. Retrieved from: [http://www.iza.org/conference\\_files/CoNoCoSk2011/gensowski\\_m6556.pdf](http://www.iza.org/conference_files/CoNoCoSk2011/gensowski_m6556.pdf)
- Gerris, J. R. M., Houtmans, M. J. M., Kwaaitaal-Roosen, E. M. G., Schipper, J. C.,

- Vermulst, A. A., & Janssens, J. M. A. M. (1998). *Parents, adolescents and young adults in dutch families: A longitudinal study*. Nijmegen: Institute of Family Studies University of Nijmegen.
- Goldberg, L.R. (1981). Language and individual differences: The search for universals in personality lexicons. *Review of Personality and Social Psychology*, 2, 141-165.
- Goldberg, L.R. (1992). The development of markers of the Big-Five factor structure. *Psychological Assessment*, 4, 26-42.
- Gollwitzer, P. M. (1999). Implementation intentions: Strong effects of simple plans. *American Psychologist*, 54, 493-503.
- Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime*. Stanford, CA: Stanford University Press.
- Goyder, J., Warriner, K., and Miller, S. (2002). Evaluating socio-economic Status (SES) bias in survey nonresponse. *Journal of Official Statistics*, 18, 1-11.
- Graebner, M.E. (2004). Momentum and serendipity: How acquired leaders create value in the integration of technology firms. *Strategic Management Journals*, 25, 751-777.
- Graham, J. W. (2009). Missing data analysis: Making it work in the real world. *Annual Review of Psychology*, 60, 549-576.
- Granovetter, M. (1974). *Getting a job*. Cambridge, MA: Harvard University Press.
- Granovetter, M. (1995). *Getting a job: A study of contacts and careers*. Second Edition. Chicago: University of Chicago Press.
- Grant, A.M. (2013). Rethinking the Extraverted Sales Ideal: The ambivert advantage. *Psychological Science*, 24, 1024-1030.
- Guindon, M.H., & Hanna, F.J. (2002). Coincidence, happenstance, serendipity, fate, or the hand of God: Case studies in synchronicity. *The Career Development Quarterly*, 50, 195-208.

## H

- Hällsten, M., Edling, C., & Rydgren, J. (2015). The effects of specific occupations in position generator measures of social capital. *Social Networks*, 40, 55-63.
- Hansen, M. N. (1996). Earnings in elite groups: The impact of social class origin. *Acta Sociologica*, 39, 385-407.
- Harakeh, Z., Scholte, R.H.J., de Vries, H., & Engels, R.C.M.E. (2006). Association between personality and adolescent smoking. *Addictive Behaviors*, 31, 232-245.
- Harel, O., Zimmerman, R. and Dekhtyar, O. (2008). Approaches to the handling of missing data in communication research. In: Hayes, Slater, Snyder (Eds.), *The SAGE sourcebook of advanced data analysis methods for communication research* (pp. 349-371). Los Angeles, CA: Sage Publications.
- Hart, D., Burock, D., London, B., Atkins, R., & Bonilla-Santiago, G. (2005). The relation of personality types to physiological, behavioural, and cognitive processes. *European Journal of Personality*, 19, 391-407.

- Hart, D., Hofmann, V., Edelstein, W., & Keller, M. (1997). The relation of childhood personality types to adolescent behavior and development: A longitudinal study of Icelandic children. *Developmental Psychology, 33*, 195-205.
- Hart, D.H., Rayner, K., & Christensen, E.R. (1971). Planning, preparation, and chance in occupational entry. *Journal of Vocational Behavior, 1*, 279-285.
- Haslam, S.A. (2004). *Psychology in organizations: The social identity approach*. Thousand Oaks, California: Sage Publications.
- Heckhausen, J., & Tomasik, M. J. (2002). Get an apprenticeship before school is out: How German adolescents adjust vocational aspirations when getting close to a developmental deadline. *Journal of Vocational Behavior, 60*, 199-219.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.
- Heinström, J. (2002). Fast surfing, broad scanning and deep diving. The influence of personality and study approach on students' information-seeking behavior. *Journal of Documentation, 61*, 228-247.
- Heinström, J. (2006). Psychological factors behind incidental information acquisition. *Library & Information Science Research, 28*, 579-594.
- Hirschi, A. (2010). The role of chance events in the school-to-work transition: The influence of demographic, personality and career development variables. *Journal of Vocational Behavior, 77*, 39-49.
- Hirschi, A., Lee, B., Profeli, E. J., & Vondracek, F. W. (2013). Proactive motivation and engagement in career behaviors: Investigating direct, mediated, and moderated effects. *Journal of Vocational Behavior, 83*, 31-40.
- Hofmann, W., Baumeister, R. F., Förster, G., & Vohs, K. D. (2012). Everyday temptations: An experience sampling study on desire, conflict, and self-control. *Journal of Personality and Social Psychology, 102*, 1318-1335.
- Holmbeck, G. N. (2002). Post-hoc probing of significant moderational and mediational effects in studies of pediatric populations. *Journal of Pediatric Psychology, 27*, 87-96.
- Hough, L.M. (1992). The "Big-Five" personality variables-construct confusion: Description versus prediction. *Human Performance, 5*, 139-155.
- Hu, Y., & Gan, Y. (2011). Future-oriented coping and job hunting among college students. *The Psychological Record, 61*, 253-268.

## I

- ILO (2012). *Global Employment Trends for Youth 2012*. Geneva.
- Inzlicht, M., & Schmeichel, B. J. (2012). What is ego depletion? Toward a mechanistic revision of the resource model of self-control. *Psychological Science, 7*, 450-463.
- Inzlicht, M., Schmeichel, B. J., & Macrae, C. N. (2014). Why self-control seems (but may not be) limited. *Trends in Cognitive Sciences, 18*, 127-133.
- Israel, G. D. (2011). Strategies for obtaining survey responses for Extension clients:

Exploring the role of e-mail requests. *Journal of Extension*, 49, Article 3FEA7.  
Retrieved from: <http://www.joe.org/joe/2011june/a7.php>

## J

- Jin, J., & Rounds, J. (2012). Stability and change in work values: A meta-analysis of longitudinal studies. *Journal of Vocational Behavior*, 80, 326-339.
- John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative big five trait taxonomy. In O. P. John, R. W. Robins, & L. A. Perwin (Eds.), *Handbook of Personality: Theory and Research* (Vol. 3, pp. 114-158).
- Judge, T. A., Higgins, C. A., Thoresen, C. J., & Barrick, M. R. (1999). The Big Five personality traits, general mental ability, and career success across the life span. *Personnel Psychology*, 52, 621-652.

## K

- Kadushin, C. (2004). Too much investment in social capital?. *Social Networks*, 26, 75-90.
- Kalleberg, A. L. (2000). Nonstandard employment relations: Part-time, temporary and contract work. *Annual Review of Sociology*, 26, 341-365.
- Kalter, F., & Kogan, I. (2006). Ethnic inequalities at the transition from school to work in Belgium and Spain: Discrimination or self-exclusion? *Research in Social Stratification and Mobility*, 24, 259-274.
- Kanas, A., Chiswick, B. R., van der Lippe, T., & van Tubergen, F. (2012). Social contacts and the economic performance of immigrants: a panel study of immigrants in Germany. *International Migration Review*, 46, 680-709.
- Kanas, A., van Tubergen, F., & van der Lippe, T. (2011). The role of social contacts in the employment status of immigrants: A panel study of immigrants in Germany. *International Sociology*, 26, 95-122.
- Kanfer A., & Tanaka, J.S. (1993). Unraveling the web of personality judgements: The influence of social networks on personality assessments. *Journal of Personality*, 61, 711-738.
- Kanfer, R., Wanberg, C.R., & Kantrowitz, T.M. (2001). Job search and employment: A personality-motivational analysis and meta-analytic review. *Journal of Applied Psychology*, 5, 837-855.
- Kappes, A., Singmann, H., & Oettingen, G. (2012). Mental contrasting instigates goal pursuit by linking obstacles of reality with instrumental behavior. *Journal of Experimental Social Psychology*, 48, 811-818.
- Kerckhoff, A., Raudenbush, S., & Glennie, E. (2001). Education, cognitive skills and labor force outcomes. *Sociology of Education*, 74, 1-24.
- Kinicki, A., & Latack, J. (1990). Explication of the construct of coping with involuntary job loss. *Journal of Vocational Behavior*, 36, 339-360.

- Kinicki, A. J., Prussia, G. E., & McKee-Ryan, F. (2000). A panel study of coping with involuntary job loss. *Academy of Management Journal*, *43*, 90-100.
- Kirby, E. G., Kirby, S. L., & Lewis, M. A. (2002). A study of the effectiveness of training proactive thinking. *Journal of Applied Social Psychology*, *32*, 1538-1549.
- Kiuru, N., Salmela-Aro, K., Nurmi, J.E., Zettergren, P. Andersson, H., & Bergman, H. (2012) Best friends in adolescence show similar educational careers in early adulthood. *Journal of Applied Developmental Psychology*, *33*, 102-111.
- Klehe, U.-C., Zikic, J., van Vianen, A. E. M., Koen, J., & Buyken, M. (2012). Coping proactively with economic stress: Career adaptability in the face of job insecurity, job loss, unemployment, and underemployment. In: P. L. Perrewé, J. R. B. Halbesleben, & C. C. Rosen (Eds.), *The role of the economic crisis on occupational stress and well being* (pp. 131-176). Emerald Group Publishing Limited.
- Klein, K.J., Lim, B., Saltz, J.L., & Mayer, D.M. (2004). How do they get there? An examination of the antecedents of centrality in team networks. *The Academy of Management Journal*, *46*, 952-963.
- Klimstra, T. A., Hale, W. W., Raaijmakers, Q. A. W., Branje, S. J. T., & Meeus, W. H. J. (2010a). A developmental typology of adolescent personality. *European Journal of Personality*, *24*, 309-323.
- Klimstra, T. A., Hale, W. W., Raaijmakers, Q. A. W., Branje, S. J. T., & Meeus, W. H. J. (2010b). Identity formation in adolescence: Change or stability? *Journal of Youth and Adolescence*, *39*, 150-162.
- Klimstra, T.A., Crocetti, E., Hale, W.W., Fermani, A., & Meeus, W.H.J. (2011). Big Five personality dimensions in Italian and Dutch adolescents: A cross-cultural comparison of mean-levels, sex differences, and associations with internalizing symptoms. *Journal of Research in Personality*, *45*, 285-296.
- Koen, J. (2013). *Prepare and pursue: Routes to suitable (re-)employment*. Dissertation. Retrieved from: <http://hdl.handle.net/11245/1.392215>
- Kroese, F. M., Adriaanse, M. A., Vinkers, C. D. W., van de Schoot, R., & de Ridder, D. T. D. (2014). The effectiveness of a proactive coping intervention targeting self-management in diabetes patients. *Psychology & Health*, *29*, 110-125.
- Krumboltz, J. D. (2009). The happenstance learning theory. *Journal of Career Assessment*, *17*, 135-154.

## L

- Lance, C. E., LaPointe, J. A., & Fiscaro, S. A. (1994). Test of three causal models of halo rater error. *Organizational Behavior and Human Decision Processes*, *57*, 83-96.
- Lancee, B. (2010). The economic returns of immigrants' bonding and bridging social capital: The case of the Netherlands. *International Migration Review*, *44*, 202-226.
- Latham, G.P., & Pinder, C.C. (2005). Work motivation theory and research at the dawn of the twenty-first century. *Annual Reviews Psychology*, *56*, 485-516.



- Lawley, J., & Tompkins, P. (2008). *Maximising serendipity: The art of recognising and fostering potential: A systemic approach to change*. Retrieved from: [www.nlpcconference.co.uk/image\\_other\\_files/Maximising Serendipity v9.pdf](http://www.nlpcconference.co.uk/image_other_files/Maximising_Serendipity_v9.pdf)
- Lefcourt, H. M. (1966). Internal versus external control of reinforcement: A review. *Psychological Bulletin*, *65*, 206-220.
- Leijten, P., Dishion, T. J., Thomaes, S., Raaijmakers, M. A. J., Orobio de Castro, B., & Matthys, W. (2014). Bringing parenting interventions back to the future: How randomized controlled microtrials may benefit parenting intervention effectiveness. *Clinical Psychology: Science and Practice*. Manuscript resubmitted for publication.
- Lerner, R. M. (1987). A life-span perspective for early adolescence. In R. M. Lerner & T. T. Foch (Eds.), *Biological-psychosocial interactions in early adolescence* (pp. 9-34). Hillsdale, NJ: Erlbaum.
- Lerner, R. M., Petersen, A. C., Silbereisen, R. K., & Brooks-Gunn, J. (Eds.). (2014). *The Developmental Science of Adolescence: History Through Autobiography*. Psychology Press.
- Lin, N. (1999a). Social networks and status attainment. *Annual Review of Sociology*, *25*, 467-487.
- Lin, N. (1999b). Building a network theory of social capital. *Connections*, *22*, 28-51.
- Lin, N. (2000). Inequality in social capital. *Contemporary Sociology*, *29*, 785-795.
- Lin, N. (2001) Building a network theory of social capital. In: N. Lin, K. Cook, R. Burt, (Eds.), *Social Capital: Theory and Research* (pp. 3-31). New York: Aldine de Gruyter
- Lin, N. (2003). *Social capital, a theory of social structure and action*. Cambridge: Cambridge University Press.
- Lin, N. (2006) A network theory of social capital. In: D. Castiglione, J. van Deth, & G. Wolleb (Eds.), *Handbook on social capital* (pp. 35-78). Oxford, Oxford University Press.
- Lin, N. (2008). A network theory of social capital. In D. Castiglione, J. W. van Deth, & G. Wolleb (Eds.), *The handbook of social capital* (pp. 50-69). Oxford University Press.
- Lin, N., & Ao, D. (2008). The invisible hand of social capital: An exploratory study. In N. Lin, & B. H. Erickson (Eds.), *Social capital: An international research program* (pp. 107-132). Oxford: Oxford University Press.
- Lin, N., & Dumin, M. (1986). Access to occupations through social ties. *Social networks*, *8*, 365-385.
- Lin, N., & Erickson, B. H. (2008). *Social capital: an international research program*. Oxford: Oxford University Press.
- Lin, N., Cook, K. S., & Burt, R. S. (Eds.). (2001). *Social capital: Theory and research*. Transaction Publishers.
- Lin, N., Fu, Y.C., & Hsung, R.M. (2001). The Position Generator: Measurement

- Techniques for Investigations of Social Capital. In N. Lin, K. Cook, & R. S. Burt (Eds.), *Social capital: an international research program* (pp. 57-81). Aldine de Gruyt.
- Linnehan, F., & Blau, G. (1998). Exploring the emotional side of job search behavior for younger workforce entrants. *Journal of Employment Counseling, 35*, 98-113.
- Liu, S., Huang, J. L., & Wang, M. (2014). Effectiveness of job search interventions: A meta-analytic review. *Psychological Bulletin*. Advance online publication.
- LOB4MBO (2014). *Working with networks*. Retrieved from: <http://www.lob4mbo.nl/nieuws-en-events/werken-met-netwerken>
- Loury, L. D. (2006). Some contacts are more equal than others: Informal networks, job tenure, and wages. *Journal of Labor Economics, 24*, 299-318.
- Lu, Y., Ruan, D., & Lai, G. (2013). Social capital and economic integration of migrants in urban China. *Social Networks, 35*, 357-369.

## M

- Major, D. A., Turner, J. E., & Fletcher, T. D. (2006). Linking proactive personality and the Big Five to motivation to learn and development activity. *Journal of Applied Psychology, 91*, 927-935.
- Makri, S., & Blandford, A. (2012). Coming across information serendipitously – Part 1: A process model. *Journal of Documentation, 68*, 684-705.
- Manfreda, K. L., Bosnjak, M., Berzelak, J., Haas, I., & Vehovar, V. (2008). Web surveys versus other survey modes: A meta-analysis comparing response rates. *Journal of the Market Research Society, 50*, 79.
- Marin, A. (2012). Don't mention it: Why people don't share job information, when they do, and why it matters. *Social Networks, 34*, 181-192.
- Marsden, P. V. Gorman, E. H. (2001). Social networks, job changes, and recruitment. In I. Berg & A. L. Kalleberg (Eds.), *Sourcebook of labor markets: Evolving structures and processes* (pp. 467-502). New York, NY: Kluwer. Academic/Plenum Publishers.
- Marsh, H. W., Wen, Z., & Hau, K.-T. (2004). Structural equation models of latent interactions: Evaluation of alternative estimation strategies and indicator construction. *Psychological Methods, 9*, 275-300.
- McBirnle, A. (2008). Seeking serendipity: the paradox of control. *Aslib Proceedings: New Information Perspectives, 60*, 600-618.
- McBirnle, A., & Urquhart, C. (2011). Motifs: dominant interaction patterns in event structures of serendipity. *Information Research, 16*. Retrieved from: <http://InformationR.net/ir/16-3/paper494.html>
- McCabe, S. E. (2008). Misperceptions of non-medical prescription drug use: A web survey of college students. *Addictive Behavior, 33*, 713-724.
- McCay-Peet, L. (2013). Investigating work-related serendipity, what influences it, and

- how it may be facilitated in digital environments. Dissertation thesis. Retrieved from: <http://dalspace.library.dal.ca/bitstream/handle/10222/42727/McCay-Peet-Lori-PhD-IDPhD-December-2013.pdf?sequence=5>
- McClelland, G. H., & Judd, C. M. (1993). Statistical difficulties of detecting interactions and moderator effects. *Psychological Bulletin*, *114*, 376-390.
- McCrae, R. R., Terraciano, A., Costa, P. T., & Ozer, D. J. (2006). Person-factors in the California Adult Q-Set: Closing the door on personality trait effects? *European Journal of Personality*, *20*, 29-44.
- McCrae, R.R. (1996). Social consequences of experiential openness. *Psychological Bulletin*, *120*, 323-337.
- McDonald, S., & Elder, G. H. (2006). When does social capital matter? Non-searching for jobs across the life course. *Social Forces*, *85*, 521-550.
- McDonald, S. (2005). Patterns of informal job matching across the life course: entry-level, reentry-level, and elite non-searching. *Sociological Inquiry*, *75*, 403-428.
- McDonald, S. (2010). Right place, right time: serendipity and informal job matching. *Socio-Economic Review*, *8*, 307-331.
- McDonald, S. (2011a). What's in the 'old boys' network? Accessing social capital in gendered and racialized networks. *Social Networks*, *33*, 317-330.
- McDonald, S. (2011b). What you know or who you know? Occupation-specific work experience and job matching through social networks. *Social Science Research*, *40*, 1664-1675.
- McDonald, S., & Day, J. C. (2010). Race, gender, and the invisible hand of social capital. *Sociology Compass*, *4*, 532-543.
- McKee-Ryan, F. M., & Harvey, J. (2011). "I have a job, but...": A review of underemployment. *Journal of Management*, *37*, 962-996.
- McKee-Ryan, F., Song, Z., Wanberg, C. R., & Kinicki, A. J. (2005). Psychological and physical well-being during unemployment: a meta-analytic study. *Journal of Applied Psychology*, *90*, 53-76.
- McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology*, *27*, 415-444.
- Merton, R.K., & Barber, E. (2004). *The Travels and Adventures of Serendipity*. Princeton University Press, Oxford.
- Miller, M. J. (1983). The role of happenstance in career choice. *Vocational Guidance Quarterly*, *32*, 16-20.
- Miller, R. S. (1997). Inattentive and contented: Relationship commitment and attention to alternatives. *Journal of Personality and Social Psychology*, *73*, 758-766.
- Mitchell, K. E., Levin, S., & Krumboltz, J. D. (1999). Planned happenstance: Constructing unexpected career opportunities. *Journal of Counseling & Development*, *77*, 115-124.
- Mitroff, S. R., & Biggs, A. T. (2014). The ultra-rare-item effect: Visual search for exceedingly rare items is highly susceptible to error. *Psychological Science*, *25*, 284-289.

- Montgomery, J. D. (1992). Job search and network composition: Implications of the strength of weak ties hypothesis. *American Sociological Review*, *57*, 586-596.
- Moran, C.M., Diefendorff, J.M., Kim, T.Y., & Liu, Z.Q. (2012) A profile approach to self-determination theory at work. *Journal of Vocational Behavior*, *81*, 354-363.
- Morrison, E. W. (2002). The school-to-work transition. In D. C. Feldman (Ed.), *Work careers: A developmental perspective* (pp. 126-158). San Francisco, CA: Jossey-Bass.
- Mouw, T. (2003). Social capital and finding a job: Do contacts matter? *American Sociological Review*, *68*, 868-898.
- Mouw, T. (2006). Estimating the causal effect of social capital: A review of recent research. *Annual Review of Sociology*, *32*, 79-102.
- Muraven, M. (2010). Practicing self-control lowers the risk of smoking lapse. *Psychology of Addictive Behaviors*, *24*, 446-452.
- Muraven, M. R., & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle? *Psychological Bulletin*, *126*, 247-259.
- Muraven, M., & Slessareva, E. (2003). Mechanism of self-control failure: Motivation and limited resources. *Personality and Social Psychology Bulletin*, *29*, 894-906.
- Myers, T. A. (2011). Goodbye, listwise deletion: Presenting hot deck imputation as an easy and effective tool for handling missing data. *Communication Methods and Measures*, *5*, 297-310.
- ## N
- Nagengast, B., Marsh, H. W., Scalas, L. F., Xu, M. K., Hau, K. T., & Trautwein, U. (2011). Who took the “×” out of expectancy-value theory? A psychological mystery, a substantive-methodological synergy, and a cross-national generalization. *Psychological Science*, *22*, 1058-1066.
- Nahl, D., James, L. (1996). Achieving focus, engagement, and acceptance: Three phases of adapting to Internet use. *Electronic Journal of Virtual Culture*, *4*.
- Napolitano, C. M. (2013). More than just a simple twist of fate: Serendipitous relations in developmental science. *Human Development*, *56*, 291-318.
- Neelon, B., & O'Malley, A.J. (2014). Two-part models for zero-inflated and semicontinuous data. To appear in Boris Sobolev and Constantine Gatsonis (Eds.), *Handbook of Health Services Research*. Manuscript in preparation. Retrieved from:  
[http://people.duke.edu/~neelo003/Working\\_Papers/tpchapter.pdf](http://people.duke.edu/~neelo003/Working_Papers/tpchapter.pdf)
- Neighbors, C., Larimer, M.E., & Lewis, M.A. (2004). Targeting misperceptions of descriptive norms: Efficacy of a computer-delivered personalized normative feedback intervention. *Journal of Consulting and Clinical Psychology*, *72*, 434-447.
- Newton, T. J., & Keenan, A. (1990). The moderating effect of the Type A behavior

- pattern and locus of control upon the relationship between change in job demands and change in psychological strain. *Human Relations*, 3, 1229-1255.
- Ng, T. W. H., Eby, L. T., Sorensen, K. L., & Feldman, D. C. (2005). Predictors of objective and subjective career success: A meta-analysis. *Personnel Psychology*, 58, 367-408.
- Ng, T. W., & Feldman, D. C. (2007). The school-to-work transition: A role identity perspective. *Journal of Vocational Behavior*, 71, 114-134.
- Nieuwenhuis, J., Hooimeijer, P., van Ham, M., & Meeus, W. (2013). *Neighbourhood effects on migrant youth's educational commitments: An enquiry into personality differences*. IZA Discussion Papers 7510, Institute for the Study of Labor (IZA). Retrieved from: <http://hdl.handle.net/10419/80588>
- Nulty, D. D. (2008). The adequacy of response rates to online and paper surveys: what can be done?. *Assessment & Evaluation in Higher Education*, 33, 301-314.
- Nylund, K.L., Asparouhov, T., & Muthén, B.O. (2007). Deciding on the number of classes in Latent Class Analysis and Growth Mixture Modeling: A Monte Carlo simulation study. *Structural Equation Modeling: A Multidisciplinary Journal*, 14, 535-569.

## O

- O'Connor, B.P., & Dvorak, T. (2001). Conditional associations between parental behavior and adolescent problems: A search for personality-environment interactions. *Journal of Research in Personality*, 35, 1-26.
- Obschonka, M., Goethner, M., Silbereisen, R.K., & Cantner, U. (2012) Social identity and the transition to entrepreneurship: The role of group identification with workplace peers. *Journal of Vocational Behavior*, 80, 137-147.
- Obukhova, E., & Lan, G. (2013). Do job seekers benefit from contacts? A direct test of contemporaneous searches. *Management Science*, 59, 2204-2216.
- OECD (2008). *Jobs for Youth/Des emplois pour les jeunes: Netherlands 2008*. OECD Publishing.
- OECD (2013). *The OECD Action Plan for Youth*. (<http://www.oecd.org/els/emp/Youth-Action-Plan.pdf>).
- Oettingen, G. (2000). Expectancy effects on behavior depend on self-regulatory thought. *Social Cognition*, 18, 101-129.
- Ogbu, J. (1991). Low school performance as an adaptation: The case of Blacks in Stockton, California. In M. Gibson and J. Ogbu (Eds.), *Minority status and schooling: A comparative study of immigrant and involuntary minorities* (pp. 249-286). New York: Garland
- Ogbu, J. U. (1978). *Minority education and caste: The American system in cross-cultural perspective*. New York: Academic Press
- Olinsky, A., Shaw, C., & Harlow, L. (2003). The comparative efficacy of imputation

- methods for missing data in structural equation modeling. *European Journal of Operational Research*, 151, 53-79.
- Onderwijsinspectie (2013)  
<http://www.onderwijsinspectie.nl/binaries/content/assets/Documents+algemeen/2013/notitie-taal-rekenen-en-loopbaanburgerschap-april-2013.pdf>
- Oyserman, D. (2008). Racial-ethnic self-schemas: Multi-dimensional identity-based motivation. *Journal of Research on Personality*, 42, 1186-1198.
- Oyserman, D., & James, L. (2010). Possible identities. In S. Schwartz, K. Luyckx, & V.L. Vignoles (Eds.), *Handbook of Identity Theory and Research* (pp. 117-145). New Nork, NY: Springer.
- Oyserman, D., Fryberg, S.A., & Yoder, N. (2007). Identity-based motivation and health. *Journal of Personality and Social Psychology*, 6, 1011-1027.

## P

- Pager, D., Western, B., & Bonikowski, B. (2009). Discrimination in a low-wage labor market: A field experiment. *American Sociological Review*, 74, 777-799.
- Pálsdóttir, Á. (2010). The connection between purposive information seeking and information encountering: A study of Icelanders' health and lifestyle information seeking. *Journal of Documentation*, 66, 224-244.
- Parker, S. K., & Collins, C. G. (2010). Taking stock: Integrating and differentiating multiple proactive behaviors. *Journal of Management*, 36, 633-662.
- Parker, S. K., Bindl, U. K., & Strauss, K. (2010). Making things happen: A model of proactive motivation. *Journal of Management*, 36, 827-856.
- Parker, S. K., Williams, H. M., & Turner, N. (2006). Modeling the antecedents of proactive behavior at work. *Journal of Applied Psychology*, 91, 636-652.
- Pascoe, E. A., & Smart Richman, L. (2009). Perceived discrimination and health: A meta-analytic review. *Psychological Bulletin*, 135, 531-554.
- Pasteur, L. (1923). Inaugural lecture, University of Lille, December 7, 1854. *The Life of Pasteur*. Devonshire RL, trans. Garden City, NY: Garden City Publishing, 76.
- Paul, K.I., & Moser, K. (2009). Unemployment impairs mental health: Meta-analyses. *Journal of Vocational Behavior*, 74, 264-282.
- Peck, S., Roeser, R. W., Zarrett, N., & Eccles, J. S. (2008). Exploring the roles of extracurricular activity quantity and quality in the educational resilience of vulnerable adolescents: Variable- and pattern-centered approaches. *Journal of Social Issues*, 64, 135-156.
- Perkins, H. W. (2007). Misperceptions of peer drinking norms in Canada: Another look at the "reign of error" and its consequences among college students. *Addictive Behavior*, 32, 2645-2656.
- Perkins, J.M., Perkins, H. W., & Craig, D. W. (2010). Peer weight norm

- misperception as a risk factor for being over and underweight among UK secondary school students. *European Journal of Clinical Nutrition*, 64, 965-971.
- Petersen, A. C., & Mortimer, J. T. (2006). *Youth Unemployment and Society*. Cambridge University Press.
- Petersen, T., Saporta, I., & Seidel, M. D. L. (2000). Offering a job: Meritocracy and social networks. *American Journal of Sociology*, 106, 763-816.
- Pickering, A., & Gray, J. A. (2001). Dopamine, appetitive reinforcement, and the neuropsychology of human learning: An individual differences approach. *Advances in Individual Differences Research*, 113-149.
- Podolny, J.M. (2001). Networks as the pipes and prisms of the market. *American Journal of Sociology*, 107, 33-60.
- Pollet, T.V., Roberts, S.G.B., & Dunbar, R.I.M. (2011). Extraverts have larger social network layers but do not feel emotionally closer to individuals at any layer. *Journal of Individual Differences*, 32, 161-169.
- Porter, SP & Whitcomb, ME (2003). The impact of contact type on web survey response rates. *The Public Opinion Quarterly*, 67, 579-588.
- Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review Sociology*, 24, 1-24.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40, 879-891.
- Price, R. H., & Vinokur, A. D. (in press). The JOBS Program: Impact on Job Seeker Motivation, Reemployment, and Mental Health. In: U. Klehe & E. van Hooft (Eds.), *The Oxford Handbook of Job Loss and Job Search*. Oxford, UK: Oxford University Press.
- Pritchard, D., & Smith, M. (2004). The psychology and philosophy of luck. *New Ideas in Psychology*, 22, 1-28.
- Proactivity (2014). In Merriam-Webster.com. Retrieved July 8, 2014, from <http://www.merriam-webster.com/dictionary/proactive>
- Pryor, R. G., & Bright, J. E. (2003). Order and chaos: A twenty-first century formulation of careers. *Australian Journal of Psychology*, 55, 121-128.
- Putnam, R. D. 2000. *Bowling alone: The collapse and revival of American community*. New York: Simon and Schuster.

## Q

- Quintini, G. Martin, J.P., & Martin, S. (2007). *The Changing Nature of the School-to-Work Transition Process in OECD Countries*. IZA Discussion Paper No. 2582, January. Retrieved from: <ftp://ftp.iza.org/dps/dp2582.pdf>.

**R**

- Rhodes, S.R. (1983). Age-related differences in work attitudes and behavior: A review and conceptual analysis. *Psychological Bulletin*, *93*, 328-367.
- ROA (2013) *School leavers between education and labour market 2012*.
- ROA-R-2013/7. *Researchcentrum voor Onderwijs en Arbeidsmarkt*, Maastricht University School of Business and Economics. Maastricht, juli 2013.
- ROA (2014) *Kerncijfers Schoolverlatersonderzoek*, Retrieved from: <http://um-webdotnet20.unimaas.nl/roa/sis-online/toelichting.htm>
- ROC Midden Nederland (2011). *Jaarverslag 2011 – Bestuursverslag*. Retrieved from: [http://www.rocmn.nl/sites/rocmn2/files/content\\_media/Jaarverslag%202011\\_bestuursverslag.pdf](http://www.rocmn.nl/sites/rocmn2/files/content_media/Jaarverslag%202011_bestuursverslag.pdf)
- Roe, A., & Baruch, R. (1967). Occupational changes in the adult years. *Personnel Administration*, *30*, 26-32.
- Rose, R. (2000). How much does social capital add to individual health?. *Social Science & Medicine*, *51*, 1421-1435.
- Roter, D. L., Hall, J. A., Merisca, R., Nordstrom, B., Cretin, D., & Svarstad, B. (1998). Effectiveness of interventions to improve patient compliance: a meta-analysis. *Medical Care*, *36*, 1138-1161.
- Russell, D.W., Booth, B., Reed, D., & Laughlin, P.R. (1997). Personality, social networks, and perceived social support among alcoholics: A structural equation analysis. *Journal of Personality*, *65*, 649-692.
- Russell, H., & Connell, P. J. (2001). Getting a job in Europe: The transition from unemployment to work among young people in nine European countries. *Work, Employment & Society*, *15*, 1-24.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68-78.

**S**

- Saks, A. M. (2006). Multiple predictors and criteria of job search success. *Journal of Vocational Behavior*, *68*, 400-415.
- Saks, A. M., & Ashforth, B. E. (1999). Effects of individual differences and job search behaviors on the employment status of recent university graduates. *Journal of Vocational Behavior*, *54*, 335-349.
- Salomone, P.R., & Slaney, R.B. (1981). The influence of chance and contingency factors on the vocational choice process of nonprofessional workers. *Journal of Vocational Behavior*, *19*, 25-35.
- Sampson, J. P., Lenz, J. G., Reardon, R. C., & Peterson, G. W. (1999). A cognitive information processing approach to employment problem solving and decision making. *The Career Development Quarterly*, *48*, 3-18.



- Sanders, M. G. (1997). Overcoming obstacles: Academic achievement as a response to racism and discrimination. *Journal of Negro Education, 66*, 83-93.
- Savickas, M. L., Nota, L., Rossier, J., Dauwalder, J. P., Duarte, M. E., Guichard, J., ... & van Vianen, A. E. (2009). Life designing: A paradigm for career construction in the 21st century. *Journal of Vocational Behavior, 75*, 239-250.
- Schmelzer, P. (2011). Unemployment in early career in the UK A trap or a stepping stone? *Acta Sociologica, 54*, 251-265.
- Schwab, S. (1986). Is statistical discrimination efficient? *The American Economic Review, 76*, 228-234.
- Schwarzer, R., & Taubert, S. (2002). Tenacious goal pursuits and striving toward personal growth: Proactive coping. In E. Frydenberg (Ed.), *Beyond coping: Meeting goals, visions and challenges* (pp. 19-35). London: Oxford University Press.
- Seibert, S. E., Crant, J. M., & Kraimer, M. L. (1999). Proactive personality and career success. *Journal of Applied Psychology, 84*, 416-427.
- Seibert, S. E., Kraimer, M. L., & Crant, J. M. (2001). What do proactive people do? A longitudinal model linking proactive personality and career success. *Personnel Psychology, 54*, 845-874.
- Seibert, S. E., Kraimer, M. L., & Liden, R. C. 2001. A social capital theory of career success. *Academy of Management Journal, 44*, 219-247.
- Shih, T. H., & Fan, X. (2008). Comparing response rates from web and mail surveys: A meta-analysis. *Field Methods, 20*, 249-271.
- Simkins, S., & Maier, M. (Eds.) (2010). *Just-in-time teaching: Across the disciplines, across the academy*. Stylus Publishing, LLC.
- Simon, C., & Warner, J. (1992). Matchmaker, matchmaker: The effect of old-boy networks on job match quality, earnings, and tenure. *Journal of Labour Economics, 10*, 306-30.
- Small, M. L. (2013). Weak ties and the core discussion network: Why people regularly discuss important matters with unimportant alters. *Social Networks, 35*, 470-483.
- Smith, E. B., Menon, T., & Thompson, L. (2012). Status Differences in the Cognitive Activation of Social Networks. *Organization Science, 23*, 67-82.
- Smith, S. S. (2000). Mobilizing social resources: Race, ethnic, and gender differences in social capital and persisting wage inequalities. *The Sociological Quarterly, 41*, 509-537.
- Smith, S.S. (2005). Don't put my name on it: Social capital activation and job-finding assistance among the Black urban poor. *American Journal of Sociology, 111*, 67-82.
- Sobel, J. (2002). Can we trust social capital?. *Journal of Economic Literature, 139*-154.
- Son, J., & Lin, N. (2012). Network diversity, contact diversity, and status attainment. *Social Networks, 34*, 601-613.
- Spector, P. E. (1988). Development of the work locus of control scale. *Journal of Occupational Psychology, 61*, 335-340.
- Spector, P.E. (2006). Method variance in organizational research: Truth or urban

- legend? *Organizational Research Methods*, 9, 221-232.
- Sprengers, M., Tazelaar, F., & Flap, H.D. (1988). Social resources, situational constraints, and re-employment. *Netherlands Journal of Sociology*, 24, 98-116.
- Statistics Netherlands (2010, 2012, 2013, 2014). *Statline*. Retrieved from: <http://statline.cbs.nl>
- Statistics Netherlands. (2011). *Integration of Dutch educational system in ISCED 2011*. Retrieved from: <http://www.cbs.nl/NR/rdonlyres/4E6FB3F2-44E4-4517-8E9E-99AE77E76AEC/0/2011iscedinpassingnedond.pdf>
- Steca, Alessandri, G., Vecchio, G.M., & Caprara, G.V. (2007). Being a successful adolescent at school and with peers. The discriminative power of a typological approach. *Emotional and Behavioural Difficulties*, 12, 147-162.
- Steel, P. (2007). The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin*, 133, 65-94.
- Steijn, B., Need, A., & van Gesthuizen, M. (2006). Well begun, half done? Long-term effects of labour market entry in the Netherlands, 1950-2000. *Work, Employment and Society*, 20, 453-472.
- Swickert, R.J., Rosentretter, C.J., Hittner, J.B., & Mushrush, J.E. (2002). Extraversion, social support processes, and stress. *Personality and Individual Differences*, 32, 877-891.

## T

- Tajfel, H. (1978). *Differences between social groups: Studies in the social psychology of intergroup relations*. London: Academic Press.
- Tajfel, H., & Turner, J.C. (1979). An integrative theory of intergroup conflict. In W Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-47). Monterey, CA: Brooks/Cole.
- Tangney, J., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, 72, 271-324.
- Thompson, J. A. 2005. Proactive personality and job performance: A social capital perspective. *Journal of Applied Psychology*, 90, 1011-1017.
- Thoolen, B. J., de Ridder, D. T. D., Bensing, J., Gorter, K., & Rutten, G. (2009). Beyond good intentions: The role of proactive coping in achieving sustained behavioural change in the context of diabetes management. *Psychology & Health*, 24, 237-254.
- Tourangeau, R., Rips, L. J., & Rasinski, K. (2000). *The psychology of survey response*. Cambridge University Press.
- Trilling, B., & Fadel, C. (2009). *21st century skills: Learning for life in our times*. John Wiley & Sons.
- Trimble, L. B., & Kmec, J.A. (2011). The role of social networks in getting a job. *Sociology Compass*, 5, 165-178.

- Trzesniewski, K.H., Donnellan, M.B., Moffitt, T.E., Robins, R.W., Poulton, R., & Caspi, A. (2006). Low self-esteem during adolescence predicts poor health, criminal behavior, and limited economic prospects during adulthood. *Developmental Psychology, 42*, 381-390.
- Turban, D.B., Stevens, C.K., & Lee, F.K. (2009). Effects of conscientiousness and extraversion on new labor market entrants' job search: The mediating role of metacognitive activities and positive emotions. *Personnel Psychology, 62*, 553-573.
- Tyler, T.R. (1999). Why people cooperate with organizations: An identity-based perspective. In R.I. Sutton and B.M. Staw (Eds.), *Research in Organizational Behavior* (pp. 201-247). Greenwich, CT: JAI Press.
- Tziner, A., Vered, E., & Ophir, L. (2004). Predictors of job search intensity among college students. *Journal of Career Assessment, 12*, 332-344.

## U

- U.S. Department of Labor, Bureau of Labor Statistics. (2014). *Current Population Survey*. Retrieved from: <http://www.bls.gov/cps>.

## V

- van Aken, M.A.G., & Dubas, J.S. (2004). Personality type, social relationships, and problem behavior in adolescence. *European Journal of Personality, 4*, 331-348.
- van der Gaag, M.P.J., & Webber, M. (2008). Measurement of individual social capital: Questions, instruments, and measures. In: I. Kawachi, S.V. Subramanian, & D. Kim (Eds.), *Social capital and health* (pp. 28-50). Springer.
- van der Gaag, M.P.J., Snijders, T.A.B., & Flap, H.D. (2008). Position generator measures and their relationship to other social capital measures. In: N. Lin & B. Erickson (Eds.), *Social capital: An international research program* (pp. 27-48). New York: Oxford University Press.
- van der Linden, D., Scholte, R.H.J., Cillessen, A.H.N., Nijenhuis, J., & Segers, E. (2010). Classroom ratings of likeability and popularity are related to the Big Five and the general factor of personality. *Journal of Research in Personality, 44*, 669-672.
- van Emmerik, I.J. H. (2006). Gender differences in the creation of different types of social capital: A multilevel study. *Social Networks, 28*, 24-37.
- van Hooft, E.A.J., Born, M.P.H., Taris, T.W., van der Flier, H., & Blonk, R.W.B. (2004). Predictors of job search behavior among employed and unemployed people. *Personnel Psychology, 57*, 25-59.
- van Hooft, G., & Saks, A. M. (2008). Job search as goal-directed behavior: Objectives and methods. *Journal of Vocational Behavior, 73*, 358-367.
- van Hooft, G., van Hooft, E.A.J., & Lievens, F. (2009). Networking as a job search behavior: A social network perspective. *Journal of Occupational and Organizational Psychology, 82*, 661-682.

- van Knippenberg, D. (2000). Work motivation and performance: A social identity perspective. *Applied Psychology, 49*, 357-371.
- van Knippenberg, D., & Schie, E.C.M. (2000). Foci and correlates of organizational identification. *Journal of Occupational and Organizational Psychology, 73*, 137-147.
- van Ryn, M., & Vinokur, A. D. (1992). How did it work? An examination of the mechanisms through which an intervention for the unemployed promoted job-search behavior. *American Journal of Community Psychology, 20*, 577-597.
- Vansteenkiste, M., Lens, W., de Witte, S., de Witte, H., & Deci, E.L. (2004). The 'why' and 'why not' of job search behaviour: Their relation to searching, unemployment experience, and well-being. *European Journal of Social Psychology, 34*, 345-363.
- Vermulst, A.A., & Gerris, J.R.M. (2005). *QBF: Quick Big Five personality test manual*. Leeuwarden, The Netherlands: LDC Publications.
- Verplanken, B. (2006). Beyond frequency: Habit as mental construct. *British Journal of Social Psychology, 45*, 639-656.
- Vinkers, C. D.W., Adriaanse, M. A., Kroese, F. M., & de Ridder, D. T. D. (2013). Efficacy of a self-management intervention for weight control in overweight and obese adults: a randomized controlled trial. *Journal of Behavioral Medicine, 37*, 781-792.
- Vinkers, C.D.W., Adriaanse, M.A., & de Ridder, D.T.D. (2013). In it for the long haul: characteristics of early and late drop out in a self-management intervention for weight control. *Journal of Behavioral Medicine, 36*, 520-530.
- VO Raad (2014). *The N-factor: The importance of networking in career learning*. Retrieved from: <http://www.lob-vo.nl/actualiteiten/nieuws/de-n-factor-het-belang-van-netwerken-voor-loopbaanleren-0>
- Vohs, K. D., & Faber, R. J. (2007). Spent resources: Self-regulatory resource availability affects impulse buying. *Journal of Consumer Research, 33*, 537-547.
- von Bothmer, M. I. K., & Fridlund, B. (2005). Gender differences in health habits and in motivation for a healthy lifestyle among Swedish university students. *Nursing and Health Sciences, 7*, 107-118.

## W

- Wanberg, C. R. (1997). Antecedents and outcomes of coping behaviors among unemployed and reemployed individuals. *Journal of Applied Psychology, 82*, 731-744.
- Wanberg, C. R. (2012). The individual experience of unemployment. *Annual Review of Psychology, 63*, 369-396.
- Wanberg, C. R., Glomb, T. M., Song, Z., & Sorenson, S. (2005). Job-search persistence during unemployment: a 10-wave longitudinal study. *Journal of Applied Psychology, 90*, 411-430.
- Wanberg, C. R., Hough, L. M., & Song, Z. (2002). Predictive validity of a

- multidisciplinary model of reemployment success. *Journal of Applied Psychology*, *87*, 1100-1120.
- Wanberg, C., Kanfer, R., & Rotundo, M. (1999). Unemployed individuals: motives, job search competencies, and job search constraints as predictors of job seeking and re-employment. *Journal of Applied Psychology*, *84*, 897-910.
- Wanberg, C. R., Kanfer, R., & Banas, J. T. (2000). Predictors and outcomes of networking intensity among unemployed job seekers. *Journal of Applied Psychology*, *85*, 491-503.
- Whiston, S. C., Brecheisen, B. K., & Stephens, J. (2003). Does treatment modality affect career counseling effectiveness? *Journal of Vocational Behavior*, *62*, 390-410.
- Williams, E.N., Soeprapto, E., Like, K., Touradji, P., Hess, S., & Hill, C.E. (1998). Perceptions of serendipity: Career paths of prominent academic women in counseling psychology. *Journal of Counseling Psychology*, *45*, 379-389.
- Wong, C. A., Eccles, J. S., & Sameroff, A. (2003). The influence of ethnic discrimination and ethnic identification on African American adolescents' school and socioemotional adjustment. *Journal of Personality*, *71*, 1197-1232.
- Wu, P., Foo, M., & Turban, D.B. (2008). The role of personality in relationship closeness, developer assistance, and career success. *Journal of Vocational Behavior*, *73*, 440-448.

## Y

- Yakubovich, V. (2005). Weak ties, information, and influence: How workers find jobs in a local Russian labor market. *American Sociological Review*, *70*, 408-421.
- Yu, R., Branje, S., Keijsers, L., Koot, H. M., & Meeus, W. (2013). Pals, problems, and personality: The moderating role of personality in the longitudinal association between adolescents' and best friends' delinquency. *Journal of Personality*, *81*, 499-509.

## Z

- Zikic, J., & Saks, A. M. (2009). Job search and social cognitive theory: The role of career-relevant activities. *Journal of Vocational Behavior*, *74*, 117-127.
- Zimmerman, B. J. (2000). Attainment of self-regulation: A social cognitive perspective. In M. Boekaerts, P. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation, research, and applications* (pp. 13-39). Orlando, FL: Academic Press.
- Zimmerman, R. D., Boswell, W. R., Shipp, A. J., Dunford, B. B., & Boudreau, J. W. (2012). Explaining the pathways between approach-avoidance personality traits and employees' job search behavior. *Journal of Management*, *38*, 1450-1475.



## Summary in Dutch (Samenvatting)

Wie vinden na afronding van hun opleiding gemakkelijk een baan en wie hebben daar meer moeite mee? Een soepele overgang van school naar arbeidsmarkt is niet alleen belangrijk voor individuele jongeren, maar zeker ook voor de maatschappij. Die overgang is een proces dat niet te vatten is in één enkel moment; de loopbaan wordt immers al voorbereid tijdens de opleiding en is na het vinden van een eerste baan niet afgelopen. Het is ook een proces dat niet te vatten is in één persoon; de werkzoekende opereert in een context van loopbaanbegeleiders, familie, vrienden, stagebegeleiders, mogelijke werkgevers en andere sociale contacten. Dit proces, dat de periode beslaat tussen het afronden van de opleiding en de eerste stappen op de arbeidsmarkt, is onderzocht in het School2Work project. Voorliggend proefschrift is onderdeel van dit project. Dit hoofdstuk bevat een samenvatting van de inzichten die in het proefschrift zijn opgedaan.

### Achtergrond van het onderzoek

Afgestudeerden hanteren verschillende criteria om de overgang van opleiding naar arbeidsmarkt als succesvol te benoemen. De één wil zo snel mogelijk een baan; de ander vindt een vast contract of een passende baan belangrijker. Los van de precieze kenmerken van de baan betekent het vinden van een baan een eerste indicatie voor succes. Eerder onderzoek heeft laten zien dat het niet vinden van een baan gevolgen heeft voor de motivatie, sociale integratie en welbevinden van individuen. Ook de maatschappij is gebaat bij een soepele overgang van opleiding naar arbeidsmarkt. Als studenten snel een baan vinden, hoeven ze immers geen beroep te doen op het sociale vangnet. Gezien het belang van soepele overgangen van opleiding naar arbeidsmarkt, staat jeugdwerkloosheid hoog op de politieke agenda. Hierbij werken nationale en regionale overheden samen met het bedrijfsleven om meer banen te creëren en zo min mogelijk jongeren tussen wal en schip te laten geraken.

Bij maatregelen rondom jeugdwerkloosheid wordt vaak speciale aandacht besteed aan de groep lager en middelbaar opgeleide jongeren. Zowel in Nederland als daarbuiten hebben zij gemiddeld genomen een meer kwetsbare arbeidsmarktpositie, met een hogere kans op werkloosheid en een lagere kans op een vast contract in vergelijking met hoger opgeleiden. Deze relatief kwetsbare groep vormt ook een grote groep; 43% van de beroepsbevolking heeft een mbo-diploma. De grootte en kwetsbaarheid van mbo-studenten, in combinatie met de constatering dat relatief weinig onderzoek is gedaan naar deze groep, vormden aanleiding om te focussen op de overgang van mbo-opleiding naar arbeidsmarkt in dit onderzoek. Hierbij is specifiek gekeken naar beroepsopleidende leerweg (BOL)-studenten in mbo-opleidingen op niveau 2 (basisberoepsopleiding, bijv. kapper), niveau 3 (vakopleiding, bijv. eerste monteur) en niveau 4 (middenkaderopleiding, bijv. filiaalbeheerder).



## Onderzoeksvraag

Het onderzoek naar de overgang van mbo-opleiding naar arbeidsmarkt is gebaseerd op een drietal aannames. De eerste aanname is dat het zoeken naar een baan en het vinden van een baan niet hetzelfde is. Het kan bijvoorbeeld voorkomen dat heel actieve baanzoekers niet succesvol zijn in het vinden van een baan, terwijl passieve baanzoekers wel een baan aangeboden krijgen. We hebben om die reden gekeken naar het gehele proces, inclusief de intensiteit van het zoeken en het succes in het vinden. De tweede aanname was dat afgestudeerden een baan zoeken binnen een sociale context, waarbij zij kunnen worden beïnvloed door loopbaanbegeleiders, familie, vrienden, stagebegeleiders, mogelijke werkgevers en andere sociale contacten. Niet alleen individuele kenmerken van de afgestudeerden zijn onderzocht, maar ook kenmerken van de sociale context. De derde aanname was dat de overgang van opleiding naar arbeidsmarkt een dynamisch, complex proces is en daarom vanuit verschillende invalshoeken moet worden bekeken. Zodoende zijn in dit School2Work onderzoeksproject inzichten vanuit de psychologie, sociologie, economie en bestuurs- & organisatiewetenschappen meegenomen, waarbij het huidige proefschrift focust op de eerste twee disciplines. Deze overwegingen hebben geleid tot de volgende algemene onderzoeksvraag:

*In hoeverre verklaren persoonlijkheid, zelfregulatie en het sociale netwerk van mbo-gediplomeerden hun zoekgedrag naar een baan en hun succes in de overgang van opleiding naar arbeidsmarkt?*

## Opzet van het onderzoek

De zeven empirische hoofdstukken die samen dit proefschrift vormen hebben elk een deel van bovengenoemde hoofdvraag beantwoord. Daarbij was het doel om de verschillende individuele en contextuele factoren niet los van elkaar, maar in hun onderlinge samenhang te bekijken. Vanuit een persoon-in-context benadering zijn hypothesen geformuleerd die interactieve processen tussen individu en omgeving beschrijven. Voorbeelden van zulke interactieve processen zijn wanneer een individuele eigenschap (bijv. vriendelijkheid) een reactie ontlokt in de omgeving, wanneer een individuele eigenschap (bijv. openheid) ervoor zorgt dat iemand de omgeving anders waarneemt, of wanneer een individuele eigenschap (bijv. proactiviteit) ervoor zorgt dat iemand zijn omgeving anders vormgeeft. Zulke interactieve persoon-in-context processen zijn in de meeste hoofdstukken aan bod gekomen.

Voor de data-analyse is in de meeste hoofdstukken (zie Tabel 1.1) gebruikgemaakt van gegevens uit het School2Work onderzoek. Hierin zijn ruim 2000 mbo-studenten gevolgd vanaf het laatste jaar van hun mbo-opleiding tot en met drie jaar daarna, van 2011 tot en met 2014. Op vijf momenten konden deze studenten vragenlijsten voor

het onderzoek invullen; twee vóór hun diplomering en drie daarna. Deze vragenlijsten bevatten een breed scala aan meetinstrumenten, die inzicht geven in de kenmerken van de studenten en hun sociale omgeving. Ook is hun gedrag en succes met betrekking tot het zoeken en vinden van een baan uitgebreid in kaart gebracht. Deze grootschalige verzameling van gegevens, van een groep waar relatief weinig onderzoek naar is gedaan, is uniek: Het volgt studenten in hun transitieperiode, is representatief voor mbo-studenten in Nederland en heeft aanzienlijk hogere responspercentages bereikt ten opzichte van andere onderzoeksprojecten bij deze doelgroep. Daarmee kunnen onze onderzoeksresultaten worden gegeneraliseerd naar andere (niet onderzochte) mbo-studenten in Nederland.

## Bevindingen

De empirische hoofdstukken zijn zo samengesteld dat ze het hele proces van werk zoeken en werk vinden beslaan. Hoofdstuk 2 en 3 behandelen de beginfase, waarin werkmotivatie en zoekgedrag van studenten voor hun diplomering aan de orde komen. Hoofdstuk 4 en 5 behandelen een latere fase, waarin het succes op de arbeidsmarkt na diplomering centraal staat. Hierbij is gekeken naar het aantal baanaanbiedingen, werkloosheidsduur, werkloosheidstatus en het type contract dat studenten hebben gekregen. Hoofdstuk 6 behandelt het gehele proces, inclusief zoekgedrag voor diplomering en arbeidsmarktsucces na diplomering. Hoofdstuk 7 richt zich op een speciaal aspect dat een rol speelt in het vinden van een baan: ogenschijnlijk toevallige kansen bij het zoeken en vinden van een baan. Hoofdstuk 8 behandelt een interventiestudie, waarin geprobeerd is proactieve vaardigheden, zoekgedrag en arbeidsmarktsucces bij mbo-studenten te verhogen.

In **hoofdstuk 2** wordt beschreven hoe de werknorm zoals mbo-studenten deze ervaren in hun sociale omgeving samenhangt met hun eigen werkmotivatie en zoekgedrag naar een baan. Hoe sterker mbo-studenten ervaren dat werk belangrijk wordt gevonden in hun eigen etnische groep, hoe gemotiveerder zijzelf zijn om te werken en hoe actiever zij zoeken naar een baan voor na hun opleiding. De verwachting was dat de invloed van deze sociale context met name sterk is voor studenten die van nature gevoeliger zijn voor hun sociale omgeving. Dit is getoetst door drie persoonlijkheidstypen te vergelijken: overcontrollers, undercontrollers en veerkrachtigen. Overcontrollers scoren relatief laag op emotionele stabiliteit, extraversie en openheid voor nieuwe ervaringen; eerder onderzoek liet zien dat zij minder besluitvaardig en onafhankelijk zijn. In eerder onderzoek bleken undercontrollers (relatief laag op vriendelijkheid en zorgvuldigheid) en veerkrachtigen (relatief hoog op de eerder genoemde dimensies) juist meer autonoom. In overeenstemming met de hypothese is de samenhang tussen de werknorm in de etnische groep en de eigen werkmotivatie sterker voor overcontrollers dan voor veerkrachtigen en undercontrollers. Resultaten uit dit hoofdstuk suggereren dus dat

iemands sociale omgeving in het algemeen van invloed is, maar dat de mate van invloed mede wordt bepaald door iemands persoonlijkheid.

In **hoofdstuk 3** staat het belang van werkmotivatie en zelfcontrole voor het zoeken naar een baan centraal. Hierbij is allereerst aangetoond dat zelfcontrole sterker dan werkmotivatie voorspelt in hoeverre mbo-studenten naar een baan zoeken. Met zelfcontrole wordt bedoeld in hoeverre studenten in staat zijn om korte termijn impulsen niet te volgen en actie te ondernemen ten behoeve van een lange termijn doel. De verwachting was dat baanzoekers vooral baat zouden hebben bij hun zelfcontrole als zij gemotiveerd zijn om te gaan werken. Dit werd echter niet bevestigd; een grotere mate van zelfcontrole hangt samen met meer zoekgedrag ongeacht of iemand meer of minder gemotiveerd is om te gaan werken. Dit kan wijzen op zogenaamd “moeiteloos gebruik” van zelfcontrole: in plaats van het actief inzetten van zelfcontrole lijkt het erop dat baanzoekers met veel zelfcontrole bepaalde automatisen hebben die hen helpen bij het zoeken van een baan. Zo zijn zij wellicht minder snel afgeleid door verleidelijke impulsen, bijvoorbeeld wanneer vrienden hen uitnodigen om te gaan gamen. Anderzijds hebben zij wellicht bepaalde gewoonten ingebouwd die hen moeiteloos helpt bij het zoeken naar een baan. Voorbeelden hiervan zijn het gebruik van vacature-alerts, routinematige gesprekjes met sociale contacten over het zoeken naar een baan en het direct bijwerken van het cv als relevante veranderingen zich voordoen. Een grotere mate van zelfcontrole, meer nog dan de mate van werkmotivatie, voorspelt in ieder geval een grotere mate van actief zoekgedrag naar een baan.

In **hoofdstuk 4** is gekeken naar de rol van persoonlijkheid en sociale netwerken in het voorspellen van arbeidsmarktkansen. Eerder onderzoek toonde al aan dat beide aspecten los van elkaar van belang zijn voor iemands arbeidsmarktkansen, maar in dit hoofdstuk is specifiek gekeken naar de combinatie van persoonlijkheid en sociale netwerken. Allereerst is ook in dit onderzoek gevonden dat extravertie en emotionele stabiliteit samenhangen met betere arbeidsmarktkansen. Zo hebben extraverte en emotioneel stabiele mbo-afgestudeerden een kortere werkloosheidsduur en meer kans op een baan na diplomering. Tegen de verwachting in worden deze relaties niet verklaard door een groter sociaal netwerk. Het lijkt er dus op dat andere factoren verklaren waarom baanzoekers met een dergelijke persoonlijkheid succesvoller zijn op de arbeidsmarkt (bijv. een beter sollicitatiegesprek of betere omgang met tegenslagen). Wel hangt de grootte van het sociale netwerk samen met een groter aantal baanaanbiedingen. Wederom tegen de verwachting in verklaren persoonlijkheidskenmerken niet in welke mate studenten profiteren van hun sociale netwerk. In de volgende hoofdstukken zijn daarom andere individuele verschillen in de benutting van het sociale netwerk beschreven.

In **hoofdstuk 5** blijkt dat baanzoekers baat hebben bij een groot sociaal netwerk. Net als in eerder onderzoek rapporteren mbo-afgestudeerden betere arbeidsmarktkansen wanneer zij een groter sociaal netwerk hebben. Specifieker gezegd blijken mbo-studenten een beter type contract (bijv. vast in plaats van tijdelijk) te

hebben naarmate zij meer sociale contacten hebben. In dit hoofdstuk blijkt dat het daarbij niet uitmaakt of mbo-gediplomeerden wel of niet met deze sociale contacten praten over het zoeken naar een baan. Als sociale contacten van belang kunnen zijn zonder met hen te praten, vertegenwoordigen zij kennelijk meer hulpbronnen dan het overbrengen van (vacature)informatie. Andere hulpbronnen die sociale contacten kunnen bieden, zelfs zonder met de baanzoeker te praten over het zoeken naar een baan, zijn het steunen van iemands identiteit of het doen van een goed woordje bij een toekomstig werkgever. Zulke hulpbronnen worden ook wel ‘de onzichtbare hand’ genoemd in de literatuur en krijgen in dit hoofdstuk dus aandacht. Een andere bevinding in dit hoofdstuk is dat het aantal sociale contacten van invloed is ongeacht of zij wel of niet in dezelfde sector werken als de baanzoeker. Op basis hiervan lijkt het dus waardevol om het sociale netwerk te vergroten; en niet per se uitsluitend in de sector waarin men wil werken.

In **hoofdstuk 6** wordt aandacht besteed aan wat zogeheten proactieve baanzoekers anders doen dan minder proactieve baanzoekers. Van proactieve baanzoekers wordt verondersteld dat zij zich meer op de toekomst richten en nadenken over hoe ze hun wensen omtrent een baan kunnen vormgeven. Eerder onderzoek toonde aan dat proactieve baanzoekers actiever en succesvoller zijn bij het zoeken en vinden van werk. Dit is in dit hoofdstuk ook gevonden: de mate van proactiviteit van baanzoekers hangt samen met intensiever zoekgedrag, een groter aantal baanaanbiedingen, een grotere kans op een baan, een hoger salaris en een grotere mate van baantevredenheid. Verder beginnen proactieve mbo’ers eerder met het toewerken naar toekomstdoelen die zij voor zichzelf hebben opgesteld. Tot slot gaan proactieve baanzoekers effectiever om met hun omgeving. Zo zoeken ze intensiever naar een baan als ze een obstakel (etnische discriminatie) verwachten, terwijl minder proactieve baanzoekers niet meer gaan zoeken als zij discriminatie verwachten. Op basis van Amerikaanse data blijkt ook dat proactieve baanzoekers die rond hun 18<sup>e</sup> verwachten gediscrimineerd te worden bij het zoeken van een baan op hun 28<sup>e</sup> minder zijn gediscrimineerd dan minder proactieve baanzoekers die evenveel discriminatie hadden verwacht. Dit kan betekenen dat proactieve baanzoekers beter in staat zijn om hun omgeving te beïnvloeden. Dit vonden we ook in relatie tot positieve kansen. Baanzoekers die zich proactiever voorbereiden op netwerkbijeenkomsten lijken hier meer informatie uit te halen en baanzoekers die zich proactiever hebben voorbereid op sollicitatiegesprekken halen hier eerder een baanaanbod uit. Samengevat kunnen we stellen dat een proactieve houding bij het zoeken naar een baan samenhangt met harder werken, succesvoller zijn, sneller in actie komen en effectiever met de (negatieve en positieve) omgeving omgaan.

In **hoofdstuk 7** staan toevallige gebeurtenissen in de baanzoektocht centraal. Hoewel mensen vaak spreken over toevallige kansen bij het zoeken naar een baan (bijv. “toevallig” een vacature zien) was de veronderstelling dat deze zogenaamde toevalligheden niet zomaar plaatsvinden. Sommige baanzoekers, zo was de verwachting, hebben meer kans om deze ogenschijnlijke toevalligheden mee te maken,

op te merken en te benutten. Inderdaad rapporteren mbo'ers in een omgeving met meer kansen (een groter sociaal netwerk en hogeropgeleide ouders) een groter aantal toevalligheden in hun baanzoektocht. Ook baanzoekers die zich beter hebben voorbereid op de zoektocht rapporteren een groter aantal toevalligheden. Om het onderscheid te maken tussen de blootstelling aan en het opmerken van toevalligheden, voegden we (gemanipuleerde) ogenschijnlijk toevallige gebeurtenissen toe aan een lopende sollicitatieprocedure. Een voorbeeld van een toevalligheid die sollicitanten tijdens deze procedure op hun pad kregen, is een poster met sollicitatietips in de wachtkamer voor het sollicitatiegesprek. Ook hieruit blijken verschillen in de perceptie en benutting van toevalligheden. Sollicitanten met een minder emotioneel stabiele persoonlijkheid hadden een grotere kans de toevalligheden op te merken, maar deden er niet vaker wat mee. Sollicitanten die zich beter hadden voorbereid, merkten de toevalligheden niet vaker op, maar benutten deze toevalligheden wel vaker. De twee studies samen laten zien dat niet iedereen evenveel toevalligheden tegenkomt, opmerkt en benut, waarbij gelegenheid en voorbereiding bijdragen aan de ervaring van 'toeval' en de benutting van onvoorziene kansen.

In **hoofdstuk 8** wordt beschreven hoe een training is opgezet en uitgevoerd om proactief gedrag onder mbo-studenten te verhogen. De training werd gegeven door de Nationale JeugdRaad (NJR) en is onderzocht door studenten te vergelijken die de training wel of niet hadden gevolgd. Op verschillende uitkomstmaten (proactief gedrag, zoekgedrag, arbeidsmarktsucces) is geen effect van de training gevonden. Uit de ontwikkeling, uitvoering en effectiviteitsstudie van de training zijn vijf lessen getrokken. Ten eerste dient de training aangepast te zijn aan het niveau en de interesses van de studenten; zij moeten een noodzaak en wens tot leren ervaren. De tweede les is dat het, ook gezien de diversiteit in het mbo, van belang is om de training te kunnen toesnijden op de (groep van) student(en). Ten derde is het hierbij belangrijk om de training op het juiste moment aan te bieden: wanneer studenten reeds een baan hebben gevonden is de training te laat; wanneer zij nog helemaal niet bezig zijn met de periode na diplomering is de training misschien te vroeg. De vierde les is dat het noodzakelijk is om de school en docenten voldoende te betrekken bij de training, omdat zij de toon zetten bij de aankondiging van de training en ook medeverantwoordelijk kunnen zijn voor praktische zaken die het succes van de training mede bepalen (bijv. regelen ruimtes en materialen). Tot slot is het aan te raden om de effectiviteit van interventieprogramma's niet alleen te beschouwen op programmaniveau, maar door tevens te kijken naar specifieke elementen uit de training. Effectieve elementen uit een training kunnen in de toekomst immers net zo goed worden benut als een effectief programma.

## Conclusies

Op basis van de verschillende hoofdstukken zijn ten minste drie conclusies te trekken.

*#1 Mbo-studenten kunnen, tot op zekere hoogte, hun eigen baanzoektocht vormgeven.*

Het zoeken van een baan is voor een deel iets waar de baanzoeker verantwoordelijkheid in kan nemen. Zo zoeken sommige mbo'ers actiever dan anderen. Daarnaast blijken studenten hun omgeving op verschillende manieren te betrekken en vorm te geven. Zo maken sommigen meer gebruik van hun sociale netwerk dan anderen en gaan sommigen beter voorbereid naar netwerkbijeenkomsten, waardoor ze de opbrengst van zo'n bijeenkomst kunnen vergroten. Ook de omgang met mogelijke obstakels bij het zoeken naar een baan speelt een rol. Zo is de verwachting om gediscrimineerd te worden voor sommigen aanleiding om harder te zoeken, terwijl anderen minder actief worden. Het lijkt erop dat een proactieve omgang met discriminatie kan helpen om de negatieve effecten hiervan terug te dringen (hoewel ze blijven bestaan). Baanzoekers die zich beter voorbereiden op de baanzoektocht en het sollicitatiegesprek komen hierbij een groter aantal toevallige kansen tegen. Samengevat kan geconcludeerd worden dat mbo'ers het zoeken naar een baan in zekere mate kunnen vormgeven door goede voorbereiding, actief zoekgedrag en een effectieve omgang met de omgeving.

*#2 Sommige mbo-studenten hebben betere mogelijkheden voor een succesvolle transitie naar de arbeidsmarkt dan anderen.*

Hoewel mbo'ers hun best kunnen doen om hun arbeidsmarktkansen te optimaliseren, zijn de kansen hierop niet gelijk verdeeld. Zo hebben baanzoekers met een groter sociaal netwerk, zelfs als ze dit niet gebruiken, betere arbeidsmarktkansen. Ook rapporteren zij een groter aantal toevallige kansen in hun zoektocht naar een baan, waar zij ogenschijnlijk niks voor hebben gedaan. Dit geldt ook voor mbo'ers met ouders die een hogere opleiding hebben genoten, wat aangeeft dat de arbeidsmarktkansen niet alleen beïnvloed worden door de vaardigheden en activiteiten van de mbo'ers zelf. Ook de persoonlijkheid van mbo'ers speelt een rol: emotioneel stabiele en extraverte baanzoekers hebben een betere kans op een baan na de opleiding. Op basis van deze bevindingen kunnen we stellen dat niet elke mbo'er dezelfde mogelijkheden kent om succesvol te zijn op de arbeidsmarkt.

*#3 Mbo-studenten verschillen in hun interpretatie van hun omgeving en hun omgang daarmee.*

Naast min of meer objectieve verschillen in de omgeving (zoals de grootte van het sociale netwerk), gaan mbo'ers ook verschillend met hun omgeving om. Twee zaken vallen op in relatie tot de ervaring van werknormen in iemands omgeving. Ten eerste rapporteren mbo'ers met een gedeeltelijk niet-Nederlandse etnische achtergrond dat Nederlanders werk belangrijker vinden dan dat Nederlanders zelf rapporteren. Ten tweede hangt de werknorm in de sociale omgeving en de eigen werkmotivatie sterker samen voor sommige mbo'ers dan voor andere, afhankelijk van hun persoonlijkheid. Persoonlijkheid speelt ook een rol in de perceptie van toevalligheden in de omgeving; minder emotioneel stabiele baanzoekers merken deze eerder op. Ook blijkt dat niet alle mbo'ers hetzelfde omgaan met obstakels in hun omgeving. Omdat proactieve

baanzoekers zich meer inzetten naarmate ze een groter obstakel zien aankomen (in de vorm van etnische discriminatie), lijkt het erop dat proactieve baanzoekers een obstakel eerder als uitdaging ervaren. Kortom, mbo'ers lijken te verschillen in de manier waarop zij hun omgeving ervaren en benaderen.

### Theoretische implicaties

De *persoon-in-context benadering* in dit proefschrift maakt het mogelijk om te onderzoeken wanneer en waarom individuele kenmerken een rol spelen in het de zoektocht naar een baan, terwijl voor contextuele kenmerken kan worden gekeken voor wie deze met name van invloed zijn. Zodoende is bewijs gevonden voor verschillende persoon-in-context processen, zoals de baanzoeker die de omgeving waarneemt, vormgeeft en een reactie ontlokt uit de omgeving.

*Persoonlijkheid* kreeg op verschillende manieren aandacht in dit proefschrift. Zo is gekeken vanuit een Big Five perspectief, waarbij opvalt dat extraverte en emotioneel stabiele baanzoekers betere arbeidsmarktchansen hadden. Als de vijf persoonlijkheidskenmerken (ook vriendelijkheid, zorgvuldigheid en openheid) tegelijk worden bekeken, blijken geen verbanden met arbeidsmarktsucces. Het was ook niet zo dat de persoonlijkheidskenmerken verklaren wie het meest baat heeft bij zijn of haar sociale netwerk of wie de meeste toevalligheden in de zoektocht naar een baan ervaart. De rol van Big Five persoonlijkheidskenmerken was dus gering. Analyses op basis van persoonlijkheidsprototypen laten wel zien dat veerkrachtige baanzoekers actiever naar een baan zoeken en dat overcontrollers dit met name doen wanneer de werknorm in hun etnische groep positiever is. Analyses met betrekking tot de proactieve persoonlijkheid van mbo'ers laat zien dat proactievare baanzoekers harder zoeken, succesvoller zijn op de arbeidsmarkt, sneller in actie komen en effectiever met hun (negatieve en positieve) omgeving omgaan. Samengevat laten de resultaten zien dat de persoonlijkheid van mbo'ers zeker van invloed is op de zoektocht naar een baan, hoewel de rol van Big Five persoonlijkheidskenmerken kleiner is dan verwacht.

*Sociale netwerken* blijken ook een rol te spelen in de zoektocht naar een baan. Zo hebben mbo'ers met een groter sociaal netwerk een grotere kans op een vast contract, zelfs wanneer zij niet hebben gepraat over het zoeken naar een baan met deze sociale contacten. Een mogelijke verklaring hiervoor is dat baanzoekers ook worden gesteund via andere wegen dan directe informatie of hulp. Het zou bijvoorbeeld kunnen dat een sociaal contact ongevraagd een goed woordje doet of dat mensen met een groter sociaal netwerk zich gesterkt voelen in hun baanzoektocht door de aanwezigheid van anderen. Dit sluit aan bij de bevinding dat mensen die een positievere werknorm in hun sociale omgeving ervaren ook actiever zoeken naar een baan. In dit proefschrift is ook onderzocht of sommigen effectiever met hun netwerk omgaan dan anderen. De eerder genoemde Big Five persoonlijkheidskenmerken verklaren niet wie meer profiteert van het sociale netwerk, maar de proactieve vaardigheden van mbo'ers doen dat wel. Zij die zich proactiever hebben voorbereid op netwerkbijeenkomsten halen

hier ook meer informatie uit, zo lijkt het. Tot slot is ook het aantal ogenschijnlijke toevalligheden tijdens de zoektocht naar een baan (bijv. “toevallig” een vacature zien) hoger bij mensen met een groter sociaal netwerk. Samengevat kunnen we concluderen dat zowel het actieve gebruik als de aanwezigheid van een groter sociaal netwerk mbo’ers op verschillende manieren kan helpen in het zoeken en vinden van een baan.

*Zelfregulatie* is het derde aspect dat uitgebreide aandacht krijgt in dit proefschrift. Allereerst blijken mbo’ers met meer zelfcontrole actiever naar een baan te zoeken, ongeacht hun werkmotivatie. Zelfcontrole gaat om het negeren van impulsen die aantrekkelijk zijn voor de korte termijn, maar ook om het actie ondernemen ten behoeve van lange termijn doelen. Een gerelateerde zelfregulatievaardigheid is proactief gedrag. Proactieve mensen richten zich op de toekomst, zien zichzelf als vormgever van de omgeving en blijken in onderzoek vaak succesvoller. Ook in dit proefschrift is gevonden dat proactieve mbo’ers zich actiever inzetten voor toekomstige doelen (zoals een baan). Verder blijken ze sneller te beginnen met het werken aan de toekomst en weten zij obstakels en kansen in hun omgeving meer naar hun hand te zetten. Deze bevindingen helpen verklaren waarom proactieve mbo’ers succesvoller zijn op de arbeidsmarkt in termen van aantal baanaanbiedingen, kans op werkloosheid, salaris en baantevredenheid. In die zin is het teleurstellend dat het trainingsprogramma om mbo’ers proactieve vaardigheden aan te leren geen positieve effecten liet zien.

### **Praktische implicaties**

In de nationale en internationale beleidscontext gaat veel aandacht uit naar (jeugd)werkloosheid. De Nederlandse ambassadeur voor jeugdwerkloosheid zet zich in voor een betere aansluiting tussen onderwijs en arbeidsmarkt en zet daarbij met name in op betere samenwerking tussen onderwijs, gemeenten en bedrijven. In de internationale context stelt de Organisatie voor Economische Samenwerking en Ontwikkeling zich tot doel om “op langere termijn betere uitkomsten te creëren voor jongeren door hen te voorzien van relevante vaardigheden en door obstakels rondom hun arbeidsmarktpositie weg te nemen” (OECD, 2013, blz. 2). In het beroepsonderwijs wordt dagelijks de vraag gesteld hoe studenten kunnen worden voorbereid op de arbeidsmarkt. In dit licht is het goed om de praktische implicaties van de bevindingen uit dit proefschrift te behandelen. Hierbij staan de vaardigheden en directe sociale contexten van baanzoekers centraal.

In het proefschrift is aandacht besteed aan verschillende vaardigheden die van pas komen bij een actieve en succesvolle baanzoektocht. Er zijn aanwijzingen dat verschillende elementen van zelfcontrole van belang zijn om actief naar werk te zoeken. Sommige van deze elementen, zo laat eerder onderzoek zien, zijn deels aan te leren, zoals impulscontrole, initiatief nemen en doorzettingsvermogen. Ook kan het baanzoekers helpen om bepaalde gewoontes te ontwikkelen in de baanzoektocht, zoals het instellen van vacature-alerts, het regelmatig bespreken van de baanzoektocht met



anderen en het CV direct bij te werken wanneer relevante veranderingen zich voordoen. Deze gewoontegedragingen kosten relatief weinig moeite, maar kunnen bijdragen aan een continu en succesvol zoekproces. Een hulpmiddel om gewoontes aan te leren zijn implementatie intenties, waarbij individuen een “als...dan...” plan opstellen. Baanzoekers vullen hierbij een gebruikelijke situatie in bij “als...” (zoals: Als ik zondag thuiskom van het sporten”) en een effectieve actie bij “dan...” (zoals: dan selecteer ik twee interessante vacatures op het internet”). Een dergelijke geheugensteun, zo suggereert eerder onderzoek, kan helpen om met relatief weinig moeite actief te blijven in de baanzoektocht.

Baanzoekers profiteren ook van proactieve vaardigheden. Proactieve baanzoekers lijken beter in staat om mogelijkheden te benutten en de impact van obstakels te verkleinen. Dit kan deels voortkomen uit een optimistische houding, waarbij obstakels worden gezien als uitdagingen. Zo'n houding kan getraind worden, door bijvoorbeeld gebruik te maken van mental contrasting. Hierbij wordt eerst het gewenste eindresultaat geschetst, waarna de obstakels bij dit doel worden geïdentificeerd en gevisualiseerd. Het stilstaan bij deze obstakels nadat de positieve kant van het doel is belicht, zo laat eerder onderzoek zien, verbetert prestaties in verschillende domeinen. Daarnaast lijkt het van belang om een realistisch plan te maken en daarnaar te handelen. De stap-voor-stap benadering van de DOEMAAR methode zoals beschreven in hoofdstuk 8 kan daarbij wellicht helpen, maar eerst is nader onderzoek nodig om inzicht te krijgen in de effectiviteit van deze benadering.

Hoewel proactief gedrag nuttig is in het zoeken naar een baan, laat dit proefschrift ook zien dat er een balans is tussen voorbereid zijn op toekomstige gebeurtenissen en ruimte laten voor onverwachte gebeurtenissen. Van de respondenten gaf 65% aan dat toeval een rol speelde in hun baanzoektocht, dus flexibiliteit om hierop in te kunnen gaan lijkt van belang. Flexibiliteit en omgang met onzekerheid is ook in toenemende mate nodig in de huidige tijd; zodoende wordt het ook wel een 21<sup>e</sup>-eeuwse vaardigheid genoemd. Mensen met een veerkrachtige persoonlijkheid doen dit wellicht al vanuit zichzelf; daarnaast besteden onderwijs en onderzoek steeds meer aandacht aan mogelijkheden om deze vaardigheden aan te leren.

Een goede manier om voorbereid te zijn en tegelijk open te staan voor onverwachte hulp is door sociale contacten te benaderen. Het onderzoek laat zien dat alleen al het hebben van sociale contacten samenhangt met betere arbeidsmarktkansen en het meemaken van meer toevallige gebeurtenissen bij het zoeken naar een baan. Ook blijkt dat netwerken zich met name uitbetaalt wanneer baanzoekers goed (proactief) voorbereid zijn op het netwerken. Scholing kan helpen bij het strategisch uitbreiden en benutten van netwerken. Zulke training kan gericht zijn op studenten, maar ook hun docenten en stagebegeleiders kunnen worden betrokken in het activeren van het beroepsnetwerk. De toenemende aandacht voor netwerken in het (middelbaar beroeps)onderwijscurriculum stemt in die zin hoopvol.

Behalve instrumentele hulp (zoals informatie) kan de sociale omgeving ook andere hulp bieden in de baanzoektocht. Vrienden, ouders en docenten beïnvloeden wellicht

hoe baanzoekers hun sociale omgeving ervaren, wat ook van invloed is op hun gedrag. Zo lijken studenten beïnvloed te worden door de werknorm in hun omgeving en de kans om gediscrimineerd te worden. Als de sociale omgeving een realistisch beeld van deze factoren kan schetsen, kan dit studenten ook motiveren actief te (blijven) zoeken naar werk. Een beproefd hulpmiddel hierbij is om de perceptie van jongeren te vergelijken met de perceptie van anderen of de feitelijke cijfers.

Samengevat kunnen we stellen dat de inzet van de individuele baanzoeker cruciaal is voor de arbeidsmarktkansen, maar dat ook een rol lijkt weggelegd voor scholen en andere sociale contexten om jongeren te helpen hun vaardigheden, hulpbronnen en houdingen zo te ontwikkelen dat zij de invloed van potentiële obstakels kunnen verminderen en potentiële kansen effectief kunnen benutten om een succesvolle overgang naar de arbeidsmarkt te maken.

# Acknowledgements (Dankwoord)

Veel mensen hebben bijgedragen aan mijn plezier bij de totstandkoming van dit proefschrift en de kwaliteit van het eindproduct. Allereerst de werkgerelateerde mensen.

Bij een interdisciplinair project horen begeleiders uit verschillende disciplines, en zo geschiedde. Voor mij was de combinatie van Marcel, Denise en Tanja ideaal. Jullie gaven me ruimte om mijn eigen weg te zoeken en vrij tussen de disciplines te bewegen. En zo kon het gebeuren dat jullie bij dezelfde zin “heel mooi”, “beetje obligaat” en “kan eruit” schreven! Ik vond het inspirerend om met elkaar te spreken over de specifieke papers, de interdisciplinaire verschillen en wetenschap in het algemeen.

**Marcel**, veel meer dan vanuit je drukke agenda, heb je mij begeleid vanuit je visie op begeleiding. Dit betekende dat je me hebt vrijgelaten waar mogelijk en gestuurd waar nodig. Hierdoor voelde ik de vrijheid om het proefschrift in te richten naar mijn ideeën, terwijl ik wist dat ik op je kon terugvallen als ik daarom vroeg. Ik waardeer hoe je strategisch denken combineert met eerlijkheid, integriteit en realisme.

**Denise**, ik vind je betrokkenheid en zorg voor al je aio’s bewonderenswaardig en je rol in de Stitch heel prettig. Ook bij mij was je zo betrokken. Beiden dragen we het hart soms op de tong, maar dat kon ook. In weinig woorden kon je de pijnpunten in de papers benoemen en ook daarbuiten heb ik je scherpzinnige blik ontzettend gewaardeerd. Met jou had ik een tweede 1<sup>e</sup> begeleider.

**Tanja**, de regelmatig gebezigde opmerking ‘ik ben slechts je derde begeleider’ had je geen moment nodig. Je feedback op papers was zo gedetailleerd en uitgebreid dat ik daar de maand op kon teren. Elke keer daagde je me uit met “waarom, hoezo, en dus, wat is het probleem?”-vragen. Ook was je altijd oprecht geïnteresseerd hoe ik ergens over dacht en hoe het met mij ging. *Hence*, bedankt!

**De hoogleraren en mede-promovendi van het School2Work team** hebben ervoor gezorgd dat we het project op zo’n schaal hebben kunnen uitvoeren. **Lisa**, jouw nauwkeurigheid en realisme hebben het project veel goed gedaan en ik weet niet waar we waren geweest zonder jouw engelengeduld met NetQ. Ook je kritische vragen over de sociale wetenschappen heb ik altijd gewaardeerd (gelukkig is het toevalspaper er gekomen!). **Corine**, jouw passie voor het onderwerp is aanstekelijk en je praktijkkennis kwam vaak van pas. Zonder jouw kritische blik waren de wetenschappelijke constructen nooit mbo-proof geworden. Op naar een geslaagd afsluitend symposium!

**Robert Koch, Leonard Geluk en Jacob Stuurwold**, dankzij jullie inzet voor ons onderzoek was er zoveel draagvlak binnen ROC Midden Nederland. Ik ben erg dankbaar voor onze intensieve en langdurige samenwerking. Alle **ROC MN docenten, afdelingsmanagers en collegedirecteuren** wil ik bedanken voor hun moeite om tijd vrij te maken in het drukke lesrooster en computerlokalen te regelen, zodat wij ons onderzoek konden uitvoeren. Speciale dank voor de docenten die deel hebben genomen aan de interventiestudie, waar nog wat meer van hun flexibiliteit werd gevraagd. **Mbo'ers**: over hart op de tong gesproken. Zowel in de klas als later per telefoon was het inzichtelijk en leuk om jullie de vragenlijsten te horen invullen. Bedankt voor jullie moeite. En wat leuk dat een aantal van jullie dit proefschrift kleur geven!

**Eric Lemain, Gonnie van der Eerden** en alle **NJR trainers** alsmede **Miriam Notten** hebben enorm bijgedragen aan de ontwikkeling van het interventieprogramma. Nog niet klaar voor implementatie in het onderwijsveld, maar wel een leerzame exercitie voor ons en de school. In toekomstig onderzoek – wellicht samen bij CINOP, Gonnie? – zal ik er zeker op voortbouwen. Bedankt.

**Fiency Peerboom en Jaap Streefkerk**, door mij op te nemen in het LOB-project heb ik veel geleerd van het mbo-veld. Jaap, je gedrevenheid en positiviteit zijn een belangrijke voorwaarde geweest voor het succes van onze werkgroep die tot op de dag van vandaag voortbestaat. Ik heb veel van jullie geleerd, wat mijn onderzoek binnen en buiten het proefschrift heeft verrijkt.

**Jacque Eccles**, you were enthusiastic from the first to the last email about my stay in Ann Arbor, Michigan. Together with **Oksana, Katyn and Krista**, you have made my stay both productive, inspiring, and enjoyable. Thanks for all the opportunities!

Talking about opportunities, **Chris**: it was more than chance that we've ended up sharing a room at the EARA/SRA summer school in Spetses. It was great to find out about our shared interests in serendipity, which has already led to a symposium, papers, a guided tour in Zürich and who knows what is yet to come!

**Liesbeth Mosselman** (echo) en **Paul Leseman** (UU), ik realiseer me hoe bijzonder het is dat jullie mij de mogelijkheid geven om praktijkgericht en academisch onderzoek te combineren. Er spreekt veel vertrouwen uit mijn aanstelling die al een halfjaar voor afronding van mijn proefschrift werd geregeld; veel dank daarvoor. Op een mooie samenwerking!

De afgelopen jaren bestonden gelukkig niet alleen uit promotieonderzoek. Tijd voor andere collega's, vrienden en familie.

2010-2012 heb ik bij KGP en de Stitch in het bijzonder doorgebracht.

**Stitchies**, wat gaaf om met zo'n groep expert te zijn op een onderwerp en zo'n gezellige groep te zijn. Natuurlijk was ik me bewust van mijn positie als vreemde eend in de bijt, maar ik heb me al heel snel thuis gevoeld bij jullie. De tweewekelijkse besprekingen en Heidagen vond ik inspirerend en de Utrechtse Marathon gezellig, maar er kan natuurlijk maar één "beste herinnering" zijn: Oh Oh Cherso! **Aukje & Josje**, de theebransjes werden gevuld met (interventie)onderzoekservaringen en kookideeën. Bedankt voor de twee gezellige H2.16 jaren! **Charlotte & Marijn**, (alfabetisch ;)), H2.09 zat vol verschillen en dat maakte het juist ook leuk! Charlotte, je adviezen rond het interventieonderzoek waren waardevol, maar de uren discussiëren blijven me bij. En iets met een volleybalnet... Marijn, partner in sushi-crime, eigenlijk is het wonderlijk dat jij tijd wilt doorbrengen met zo'n lompe hark als ik! De ellenlange mailconversaties zijn vervaagd, maar onze etentjes waardeer ik nog altijd. **Floor & Jessie**, bedankt voor twee keer lunchen met Kerst en ik weet niet-hoeveel-keer Gutenbergbezoekjes! **Cath & Marieke**, de ervaringsdeskundigen op de afdeling maar ook de twee die konden relativeren. Hoe serieus er ook gewerkt moest worden, een al dan niet flauwe grap kon niet uitblijven. **Astrid, David, Emely, Lot, Marleen, Nynke, Popi, Sanne, Sosja, Stefanie en Tracy**, voorgangers en opvolgers in de Stitch, leuk om iets van jullie onderzoek mee te hebben gekregen. **Denise**, mater familias, weinig leerstoelen zijn zo hecht en ik wil je bedanken dat ik daar vier jaar deel vanuit heb gemaakt!

2012-2014 heb ik bij OWP doorgebracht. Hoewel elk lid van de afdeling een eigen onderzoeksgebied leek te hebben, was het ook hier gezellig. De avocado's, speltcrackers en quinoa-salades waren een hele inspiratie, maar er was meer. **Laura**, samen besloten een kamer te delen en ik heb geen moment spijt gehad. Bron van kennis, discipline, geduld en gezelligheid; je was een ideale kamergenote. Op naar twee geslaagde verdedigingen! **Hilde**, garantie voor een weerwoord met lach, wat moeten we zonder onze succesvolle en gezellige Schrijfweken (bedankt Grietje & Jakob), Schrijf-Lightweken (bedankt oma) en Schrijfdagen (bedankt blender)? Ik denk vaker ontbijten om bijgepraat te blijven. **Eddie**, bedankt voor je honderden flauwe plaatjes en tientallen onnavolgbare uitspraken (Er zijn te veel mensen op deze aarde die niet nadenken over zeepsop. Tarzan is een oplichter. Niet alles dat later komt heeft een latere oorsprong). Bedankt voor je pratende mond en luisterend oor. **Joyce**, de gezamenlijke organisatie van de Batavierenrace en het voorzitterschap van Jonkie verliep altijd soepel en gezellig. Op naar nog veel

dansavondjes! **Anne & Martine**, “de collega’s”, gewaardeerd op de werkvloer, maar nog leuker daarbuiten! **Afke, Ankie, Anouk, Astrid, Ivy, Meike, Nori, Odilia, Patty, Petra, Rabia, Roos(t), Saskia, Tamara, en Theresia**, bedankt voor de gezellige Jonkie en Oldiebijeenkomsten! **Bram, Helen, Jan, Judith en Yolanda**, bedankt voor de gezellige en leerzame DB-tijd; fijn dat jullie het aio-lid altijd serieus hebben genomen (of dat uitstekend speelden te doen). **Johanneke**, je zal soms gek zijn geworden van mijn mini-projectjes! Bedankt voor je ondersteuning, geduld en het kijkje achter de financiële schermen. **Emma, Janet en Karima**, stille krachten op de achtergrond met altijd een glimlach klaar, bedankt.

**Mattijs**, superassistent en huisgenoot in één; de uren dat jij School2Work en mij hebt ondersteund zijn niet te tellen! Het onderzoek naar serendipiteit was natuurlijk de kroon op onze samenwerking. Jij zorgde er met **Cilia, Matthijs, en Robin** voor dat de nerdmeetings niet alleen leerzaam waren, maar ook – daar is-ie weer – gezellig. Hopelijk blijven ze bestaan.

Uit mijn tijd in de master: **Georgi, Linda, Maria, Sanne, Tim, Vincenz** en andere SaSR’s; ik kijk nog wel eens met weemoed terug naar de tijd van keihard werken en vooral ook heel veel uitgaan! Maar ook de 25+ variant van rustige etentjes en sporadische dansavonden is leuk.

**Nijs**, met het student-assistentschap bij M&T heb je de weg naar de wetenschap voor mij geopend. Bedankt voor je voorbeeldfunctie als docent en je amicale houding buiten de practica om.

**Pieter Felten**, wat fijn dat we niet hetzelfde hoeven te denken om het leuk te hebben.

**Jarno & Sander**, spareribs eten en bier drinken met jullie is heerlijk. Jullie ongenueanceerde meningen vormen een welkome afwisseling en plaatsen mijn werk ook in het juiste perspectief. Drie kwartier jullie mond houden zal een uitdaging worden op 6 maart, maar daarna kunnen jullie los – op rekening!

Homies, vanaf de middelbare school een superhechte vriendengroep. Jullie vormen de groep waarbij ik niet nadenk hoe ik overkom en waarbij iedereen volledig zichzelf is. Brabohumor van **Herbie**, grote verhalen van **LeoGeo**, AT-grappen van **Meester WizZie**, oninteressante feitjes van **Merrek**, attende **Omaars** en het competitieve van **Vinnie** (Artiesten tegen Azië); het lijkt zo triviaal, maar ik zou niet zonder willen. **Homies4Life!**

Voor de sociologen onder ons dan nu over op het *core network*. De harde kern bestaat bij mij uit acht mensen, bij wie ik altijd terecht kan.

**Agaath**, als vanzelfsprekend stel je je huis beschikbaar voor Schrijf-Lightweken. Daarnaast ben je een voorbeeld in je positivisme, het niet pronken met succes maar wel met presteren (zoek het nuanceverschil) en acceptatie van andere perspectieven.

**Dirk**, als vanzelfsprekend help je trouw met de lay-out en val je je blauwe plekken voor de fotoshoot bij mijn proefschrift. Ook vanwege je eigengereidheid en relativiseringsvermogen zal ik altijd bij je blijven aankloppen (Homies gaan je adagium *zeg dat dan tegen 'm langzaam opvolgen!*)

**Kioa**, als vanzelfsprekend bemoei je je met het diner. Met als basis urenlange gesprekken met lekker eten en beter wordende wijn, vind ik het gaaf hoe we onszelf telkens opnieuw uitvinden in nieuwe initiatieven. Ik kijk uit naar 5, 10, 15, 20,... 60 jaar later! Hoe dansen dodo's ook alweer?

**Leny**, als vanzelfsprekend denk en doe je mee in alles wat ik onderneem. Een baken waar ik op kan terugvallen, maar altijd op voldoende afstand zodat ik mijn eigen keuzes kan maken. Voorbeeld in discipline, creativiteit en doorzettingsvermogen, wat is het leven makkelijk met zo'n moeder.

**Léon**, als vanzelfsprekend al jaren genoeg aan een half woord of biederkaart om elkaar te begrijpen. Zo'n geschiedenis opgebouwd – Dorpstraat, Fanny, Mac, Sophie, Harm & Koos, Biltse Hoek, Mia & Resi – en zoveel gave dingen gedaan – Najaarshomies, Pineapple Brothers, Voorjaarskennissen, Huisweekenden en het hipste kaartspel ooit – op de toekomst!

**Lily**, als vanzelfsprekend ben je betrokken en plaatsvervangend zenuwachtig. Van hamertje tik en verse frambozenjam via Franse les en suikeraardbeien naar bridge en appeltaart; veel mooie herinneringen! Ook nam ik je eigenwijsheid en ongenueanceerde directheid maar over, merci!

**Luc**, als vanzelfsprekend ben je trots op me; ook met een 5½. Vanuit zo'n stabiele thuishaven is het prettig opgroeien. Je vertrouwen in de mens mag dan al honderden euro's hebben gekost, ik heb je idealen niet links laten liggen. En ook altijd net buiten het keurslijf; eigenheimers zijn nu eenmaal het leukst!

**Nina**, als vanzelfsprekend ben jij zo'n andere eigenheimer op de eerste rij. Hard op weg naar tien jaar vriendschap, waarin je ook rond het proefschrift alles hebt meebeleefd. Ik ben heel trots op ons en kijk met alleen maar plezier terug op de dag dat jij die groene Laguna bent ingestapt.

Agaath & Lily, Luc & Leny, Dirk, Kioa, Nina & Léon: jullie zijn vanzelfsprekend en daar ben ik heel blij mee.







**Publications and manuscripts  
in submission**

## Publications

- Eccles, J. S., Fredricks, J. A., & **Baay, P. E.** (in press). Expectancies, Values, Identities, and Self-Regulation. In G. Oettingen & P.M. Gollwitzer (Eds.), *Self-Regulation in Adolescence*. New York: Cambridge University Press.
- Baay, P. E.**, de Ridder, D. T. D., Eccles, J. S., van der Lippe, T., & van Aken, M. A. G. (2014). Self-control trumps work motivation in predicting job search behavior. *Journal of Vocational Behavior*, *85*, 443-451.
- Baay, P. E.**, van Aken, M. A. G., van der Lippe, T., & de Ridder, D. T. D. (2014). Personality moderates the links of social identity with work motivation and job-searching. *Frontiers in Psychology*, *5*: 1044.
- Baay, P. E.**, van Aken, M. A. G., de Ridder, D. T. D., & van der Lippe, T. (2014). Understanding the role of social capital in adolescents' Big Five personality effects on school-to-work transitions. *Journal of Adolescence*, *37*, 739-748.
- Baay, P. E.**, Liem M., & Nieuwbeerta, P. (2012). 'Ex-Imprisoned Homicide Offenders: Once Bitten, Twice Shy?' The Effect of the Length of Imprisonment on Recidivism for Homicide Offenders. *Homicide Studies*, *16*, 259-279.
- Verhoeven, V., Baay, M. F., **Baay, P. E.**, Lardon, F., van Royen, P., & Vermorcken J. B. (2010). Everything you always wanted to know about HPV (but could not ask your doctor). *Patient Education and Counseling*, *81*, 101-105.
- Verhoeven, V., Baay, M. F., & **Baay, P. E.** (2009). People seeking health information on HPV on the internet have a very high level of anxiety (Letter to the editor). *Sexual health*, *6*, 258-259.

## Research reports

**Baay, P. E.**, & Schipper, M. C. (2014). School2Work report difficult learners: (Labor market) situation of difficult learning students and alumni. Research report by order of regional vocational training institute ROC Midden Nederland.

**Baay, P. E.**, & van Pinxteren, R. (2014). School2Work report level 1 students: (Labor market) situation of level 1 students and alumni. Research report by order of MBO Diensten.

## Manuscripts in submission

**Baay, P. E.**, de Ridder, D. T. D., van der Lippe, T., & van Aken, M. A. G. (revise & resubmit). Aiming to increase proactive behavior in prospective graduates: Five lessons learned from an ineffective training program. *Journal of Adolescence*

**Baay, P. E.**, Eccles, J. S., van Aken, M. A. G., van der Lippe, T., & de Ridder, D. T. D. (submitted). Harder, Better, Faster, Stronger: Understanding the "Pro" in Proactive Behaviors during School-to-Work Transitions.

**Baay, P. E.**, van der Lippe, T., de Ridder, D. T. D., & van Aken, M. A. G. (submitted). The "(in)visible hand" of social capital: Accessible versus Mobilized Social Capital in the School-to-Work Transition.

**Baay, P. E.**, Napolitano, C. M., & Schipper, M. C. (submitted). It wasn't sheer luck after all: Opportunity and preparation predict serendipity in the job search process.

Mourey, J. A., Oyserman, D., & **Baay, P. E.** (submitted). Hire me (though I cannot be bothered to really try): Undermining consequences of fluency in job search.

Verhoeven, A. A. C., Adriaanse, M. A., de Vet, E., Fennis, B. M., **Baay, P. E.**, & de Ridder, D. T. D. (submitted). Using implementation intentions as a metacognitive strategy to change unhealthy snacking behavior.

Napolitano, C. M., **Baay, P. E.**, Geldhof, G. J. (in preparation). Expecting the unexpected: Having a serendipitous orientation improves the university transition.



# Curriculum Vitae

In 2005, Pieter completed his secondary school at Christelijk Gymnasium Utrecht. Pieter finished his bachelor in Sociology at Utrecht University in 2008. He wrote his bachelor thesis on the relative importance of human and social capital for the employment chances of ethnic minorities in the Netherlands. Pieter graduated (cum laude) from the Sociology and Social Research (SaSR) master program at Utrecht University in 2010. In his master thesis, he investigated the effect of imprisonment length on recidivism of Dutch homicide offenders. Upon graduation, Pieter started his Ph.D. project that was part of Utrecht University's research focus area Coordinating Societal Change (CSC). During the School2Work project, he received a UU Short Stay Fellowship to spend three months at the University of Michigan. In addition, Pieter received support from EARA/SRA and acquired, together with his collaborators, research grants from Instituut GAK, MBO Diensten, and ROC Midden Nederland. During this project, Pieter was also member of a governmental taskforce of MBO Diensten that aimed to improve career counselling in vocational education and training. Based on his collaborations with the field as well as his research on a societally relevant question, he received the UU Valorization Price. Currently, Pieter holds a joint appointment as a researcher at the Centre for Expertise in Vocational Education and Training (ECBO) and as a postdoctoral researcher in Utrecht University's research focus area Education and Learning Sciences (ELS).