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ATTRACTING YOUNG JOB SEEKERS WITH TRADITIONAL RECRUITMENT PRACTICES? — A DIFFERENCE-IN-DIFFERENCES ANALYSIS

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Abstract:

This paper empirically investigates whether site visits and firm presentations are effective recruitment activities for attracting pupils and for strengthening their application intentions in favor of dual apprenticeship training at small and medium-sized enterprises (SMEs) in Germany. Using a quasi-experimental study design and unique panel data set, for the first time, this paper provides information about the causal effects of these recruitment activities. Results of difference-in-differences analyses reveal that the implementation of firm presentations and site visits does not have effects on the examined recruitment outcomes. Nevertheless, SMEs have the chance to increase their recruitment success among potential apprentices with several aspects being considered, e.g., the information policy after the recruitment practices.

JEL Classification: J23, J24, M31, M51
Keywords: employer attractiveness, application intention, recruiting success, apprenticeship marketing, apprenticeship training, occupational choice, small and medium-sized enterprises

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1 Introduction

In times of decreasing labor supply, on the one hand, and limited financial resources, on the other, the effectiveness of SMEs' recruitment measures is more important than ever (Kraus et al., 2010; Standing Conference of the Ministers of Education and Cultural Affairs, 2013). With recruitment measures, SMEs generally intend to present themselves as attractive employers for professionals as well as for young people who are just entering the working world (Chapman et al., 2005). Especially young people searching for apprenticeship training are at the recruitment focus of German SMEs (Kay et al., 2010). Their importance could be derived from the fact that German SMEs even accept the high net costs of apprenticeship training in order to qualify an employee who is optimally adapted to the firms' needs (Dionisius et al., 2008).

In Germany, recruitment opportunities for SMEs in schools have increased since the "National Pact for Career Training and Skilled Manpower Development" entered into force in 2004. In this context, schools and firms have intensified their cooperation to design measures mainly for the purpose of improving pupils' career decision making processes and their career orientation (Federal Ministry of Education and Research, 2004). However, it is also explicitly intended that firms should benefit from gaining access to potential apprentices to present their own firm as employer of choice (Standing Conference of the Ministers of Education and Cultural Affairs, 2006). Another goal of the pact is that firms should be enabled to optimize their marketing activities to attract potential apprentices (Federal Ministry of Education and Research, 2010).

Since the implementation of the pact, lots of new measures have been introduced in Germany to bring together firms and potential apprentices, for example via "speed-dating" events (Mulatz, 2013). However, in the SMEs' minds, "traditional" recruitment activities dominate. The majority of SMEs are still implementing site visits (Kay et al., 2010) and attending informational events at schools (Wagner et al., 2012), for example with firm presentations. Because German firms put plenty of effort into conducting these measures, the question arises whether they benefit from these traditional recruitment activities. Hence, this paper focuses on two questions:

(1) Does the implementation of firm presentations and site visits lead to an increase in pupils' perceived employer attractiveness and application intentions toward an SME?

(2) Which frame conditions show effects on recruitment outcomes and therefore have to be considered by SMEs when implementing such recruitment measures for potential apprentices?

The present study contributes to the existing literature in several ways. There are lots of studies that found correlations between large companies' recruitment measures and job seekers'

recruitment or job acceptance behavior (e.g., Breaugh, 2008; Breaugh & Starke, 2000; Collins, 2007; Collins & Stevens, 2002; Dougherty et al., 1994; Lievens & Highhouse, 2003; Turban, 2001; Turban & Dougherty, 1992). Concerning job seekers, previous studies have mainly focused on students who are regarded as of high potential (e.g., Baum & Kabst, 2011; Falk, 2013). Despite their importance, no study exists that focuses on younger job seekers such as pupils who may begin apprenticeship training. Thus, the present study provides an insight into a worker group that has been neglected in recruitment research so far. Whereas SMEs and their recruitment outcomes have rarely been analyzed in former studies (e.g., Baum & Kabst, 2011; Falk et al., 2013; Williamson, 2000), major criticism was expressed because the recruitment outcomes were mainly investigated only in relation to one firm. Therefore, the results were not generalizable. The present study was conducted in cooperation with 14 SMEs from the German crafts sector and thus represents a broader sample of potential employers and their recruiting achievements. Moreover, the central contribution of this study, compared with previous research, can be derived from the design as a quasi-experimental field study with pupils in treatment and control groups who participated in pre- and post-surveys. With the panel data set from both groups, the causal effects of the firm presentations and site visits could be identified.

The findings of this study are of major relevance for various stakeholders in practice. First, the results provide information on the effectiveness of two commonly used recruitment strategies for craft firms' apprenticeship marketing. Thus, firms are enabled to decide whether they want to continue carrying out those strategies. Second, craft organizations, that work for the improvement of their member firms' image as employers, gain insights into the value of firm presentations and site visits as recruitment measures and could work on improvement or elaboration of new strategies for their members. Third, schools could rethink their support for the implementation of firm presentations and site visits in terms of fostering their pupils' career orientation. And fourth, the partners in the "National Pact for Career Training and Skilled Manpower Development" can benefit from achieving quality evaluations of their work and thus have the chance to maximize their partners' profits by advancing the measures.

The remainder of the paper is structured as follows: In the next section, the underlying theory and hypotheses are specified. In section 3, the data set and the empirical strategy are described. The results of the empirical analysis are presented in section 4. In section 5, the key results as well as the limitations of the study are discussed before the paper concludes with implications for corporate practice in section 6.

2 Theoretical background and hypotheses

2.1 Overview of previous work on the effects of recruitment measures on recruitment outcomes

The present study focuses on two recruitment outcomes found to be important in recruitment research in recent years: Job seekers' perceived employer attractiveness and job seekers' intentions to apply for a vacant position (Cable & Turban, 2001; Chapman et al., 2005). Derived from the marketing literature, perceived employer attractiveness is particularly important because it "affects the individuals' decision about organizations, including whether they pursue a job, whether they accept a job, what they expect from the firm if they do accept a job, and how they behave toward the firm as future consumers" (Cable & Turban, 2001, p. 143). In this context, employer attractiveness is considered to trigger or mediate job seekers' application intentions. Whereas the relationship between the two recruitment outcomes is not analyzed in the present study, the effects of the firm presentation and the site visit are examined separately on perceived employer attractiveness and the application intentions of pupils. The value of including application intentions as an outcome variable beside pupils' perceived employer attractiveness results from previous findings that have shown the application intentions to be a good proxy for the actual job choice (Ajzen, 1991; Ajzen & Fishbein, 1977; Chapman et al., 2005). Thus, the present study is close to practitioners' interests as they would mainly like to know the "visible" achievements of their recruitment efforts (Chapman et al., 2005).

Research on employer attractiveness or on job seekers' application intentions as important recruitment outcomes could be differentiated according to the particular recruitment channel examined. A lot of studies have dealt with job seekers' recruitment behavior after interviews (e.g., Powell & Goulet, 1996; Silvester & Anderson, 2003; Taylor & Bergmann, 1987; Turban, 2001; Turban et al., 1995). Powell (1984) investigated the effects of job seekers' participation in recruitment interviews by controlling for information that graduating college students received about the companies' job attributes (e.g., job security). Using a path analysis, the results indicate that only job attributes showed significant effects on the likelihood of students' job acceptance (Powell, 1984). Following this finding, interviews have to be assessed as a necessary recruitment activity for getting to know each other but, in addition, they are not achieving specific effects as recruitment measures on their own.

In contrast, fewer studies have paid attention to recruitment on the internet (Allen et al., 2007). Cober et al. (2004) theoretically analyzed the use of web-sites in recruitment issues. They developed a framework in which they brought together the characteristics of web-sites and how job seekers interact with and react to the employer behind the web-site. In an empirical study, Cober et al. (2003) found that the perception of the web-sites' content and the web-sites' style positively affects students' attraction to an organization. Furthermore, Williamson et al. (2003) detected that students' attractiveness perceptions are strengthened through the web-sites' usability. Additionally, Dineen et al.

(2002) found that the firms' web-sites should include information from which job seekers can derive their person-organization fit because this strengthens the job seekers' perception of the firms' attractiveness. In sum, the firms' web-sites could be classified as helpful recruitment tools in attracting potential applicants if several attributes (e.g., style, usability) are fulfilled.

Other recruitment tools for manipulating perceived employer attractiveness and job seekers' application intentions are used in only a few studies. Concerning job fairs, it is empirically confirmed that the information given to job seekers during the fair showed significant effects on students' perception of organizational attractiveness "when the campus fair information contained specific information" (Saks & Uggerslev, 2010, p. 356) rather than general information. Moreover, the perception of the fair staff has the largest effect on job seekers' application intentions and not—as often assumed—the fair size or its costly arrangement (Falk, 2013).

The effects of clustered groups of recruitment activities have been analyzed in further research. In a longitudinal study, Collins & Stevens (2002) examined the impact of four different early recruitment-related activities (publicity, sponsorship, word-of-mouth endorsement, and advertising) on the job choice decisions of engineering students. The results showed that these recruitment strategies have indirect effects on the application intentions and decisions of the students through the perceived job attributes. However, given the cross-sectional data collection, it was not possible to "determine the direction of causality for the relationship between recruitment practices, cognitions and affective reactions, and intentions" (Collins & Stevens, 2002, p. 1131). Furthermore, Collins (2007) investigated the recruitment effects of high-information practices (detailed recruitment advertisements and employee endorsements) in comparison with low-information general recruitment advertisements and sponsorship. He found that "the largest relationships between low-information recruitment practices and application behaviors occurred under conditions of low company product awareness" (Collins, 2007, p. 186).

Based on signaling theory (Spence, 1973), Falk et al. (2013) made a distinction between recruitment channels with low (internal job markets and employee referrals) and high (job advertisements and headhunters) informational asymmetry. The study revealed that, in recruitment situations with high degrees of hidden information, job seekers rely more on directly observable company and job characteristics such as monetary aspects. Yet, in recruitment situations with low degrees of hidden information, the quality aspects of workplaces (e.g., flexible work times) showed effects on recruitment success (Falk et al., 2013). The existence of asymmetric information in the job market could also be reduced if a company possesses a "works council, an apprenticeship training program, and a high-quality incumbent workforce" (Backes-Gellner & Tuor, 2008, p. 271), as these directly observable company characteristics do reliably signal job security, career prospects, or interesting workplaces.

Summing up these studies, it can be concluded that employer and job characteristics play an important role in manipulating job seekers' recruitment behavior (Lievens et al., 2005; Powell, 1984; Taylor & Bergmann, 1987; Thomas & Wise, 1999; Turban et al., 1998). Therefore, in the present study, employer and job attributes were included as control variables while determining the effects of firm presentations and site visits on perceived employer attractiveness and the pupils' intention to apply for apprenticeship training at craft firms.

2.2 Recruitment effects of the firm presentation and site visit

So far, site visits as recruitment measures and their effects on recruitment outcomes have received little attention in recruitment research (Breaugh & Starke, 2000; McKay & Avery, 2006). Nevertheless, following the assumptions of Breaugh (2008), they have "the potential to have a great influence on an applicant" (p. 115) and deserve greater research attention in future (Breaugh & Starke, 2000). The important benefit of site visits compared with other recruitment activities could be derived from their "longer and more intense applicant-company interaction" (Taylor & Bergmann, 1987, p. 273). In the present study, the site visit fulfills just these characteristics compared with the firm presentation. The firm presentation took place in the usual environment of the school (classroom) and thus provided rather theoretical information about the employer and the job. The site visit was held at the firms' headquarters where the pupils had a theoretical introduction to the firms and the apprenticeship training at the start. This theoretical introduction—as part of the site visit—was comparable to the implementation of the firm presentations. Afterwards, pupils participated in vocational workshops to perform typical tasks from the apprenticeship training and undertook a guided tour through the company site. Whereas the firm presentation and the site visit are comparable in terms of the presented amount of "theoretical" information about the employer and the job (e.g., concerning the tasks, prospects for personal growth, working atmosphere, wages, etc.), they differ regarding the possibility for intensified interaction between the recruitment parties.

Studies have shown that job seekers appreciate site visits as recruitment channels: 50% of the participants positively mentioned site visits for the opportunity to meet company representatives in the position applied for or higher ranked company members (Boswell et al., 2003). It should be noted, however, that job seekers are not only rewarding the contact with company staff (Saks & Uggerslev, 2010) but also evaluating the organization of the site visit (Boswell et al., 2003). Fink et al. (1994) revealed that poor organization perceived by job seekers even diminishes the companies' recruitment outcomes. As the site visit was well organized in the present study by the 14 craft firms, it could be assumed that it will be a successful recruitment measure.

However, previous analyses of the effects of site visits on recruitment outcomes have been conducted under different conditions. Compared with Turban et al. (1995), who investigated whether perceptions of a site visit are related to job seekers' job acceptance decision, in the present study, the site visit was implemented as a single recruitment measure and not in combination with interviews. Thus, the present study is able to detect the single effects of site visits as a recruitment measure. In addition to this deviance, Turban et al. (1995) cooperated with one large enterprise as a possible employer and analyzed the effects on a sample of students. Nevertheless, the results of Turban et al. (1995) showed the great value of interviews and site visits as a combined recruitment activity. They revealed that the overall assessment of a site visit is positively related to students' job acceptance decisions.

Regarding the consistency of findings on the effects of site visits, previous studies do not provide consistent results. Taylor & Bergmann (1987) analyzed the effects of a college recruitment program for a large manufacturing firm. Thereby, job seekers' reactions were analyzed on every one of five stages of the firms' recruitment programs. The site visit, which was part of the programs after the interview stages, failed to provoke applicants' reactions. This result is contrary to the findings of Turban et al. (1995), who analyzed the effects of site visits in a similar setting. Taylor & Bergmann (1987) found that the site visit itself has no influence on either the students' perceived employer attractiveness or their likelihood of accepting job offers when controlling for factors such as the expected job attributes. They explained the results from the advanced information process that job seekers passed through: "those applicants who do receive information about job attributes at the campus interview tend not to react strongly to recruitment activities" (Taylor & Bergmann, 1987, p. 282).

Given that the sample investigated in the present study—pupils who will leave school in the foreseeable future—is participating in the recruiting measures of the cooperating craft firms for the first time, previous information effects concerning the employer and the apprenticeship training that the interviewees probably had in the study of Taylor & Bergmann (1987) are not likely to exist. Thus, for the present study, it can be supposed that the implementation of a site visit will contribute to pupils' information process and activate an examination that positively influences pupils' recruitment behavior.

H_{1a}: The implementation of a site visit will improve the pupils' perceptions concerning the employer attractiveness of a craft firm.

H_{1b}: The implementation of a site visit will improve the pupils' intentions to apply for apprenticeship training in a craft firm.

For the second recruitment measure in the present study, the same conditions apply as mentioned for the site visit: The examined pupils had their first recruitment contact with the craft firms when participating in the firm presentation. Hence, it can also be assumed that pupils have initially received all relevant information from which they could derive further recruitment behavior. Following the theoretical considerations of Collins & Han (2004), this assumption is strengthened because the firm presentation is ranked among the high-information recruitment practices. This means that pupils obtain "detailed specifications and arguments regarding the job and the company" (Collins, 2007, p. 182). A further characteristic of high-information recruitment channels is that they create job seekers' involvement by offering the possibility for personal interaction between company representatives and potential employees (Baum & Kabst, 2011).

Regarding high-involvement recruitment practices, diverse studies (e.g., Gatewood et al., 1993) have found that "they have significant, positive effects on application intentions by creating positive beliefs about job attributes and positive attitudes toward a recruiting company" (Collins & Han, 2004, p. 691). This argues in favor of the effectiveness of firm presentations to influence the perceived employer attractiveness and the pupils' application intentions. Nevertheless, the causal influence of firm presentations as a single recruitment activity on recruitment outcomes has not been investigated so far.

There is little empirical research on firm presentations as recruitment measures. Falk (2013) investigated the effects of companies' career fair appearances on students' intentions to apply. Thereby, the companies' participation at a company presentation session for interested job seekers at the career fair was also included in the analysis. Falk (2013) found that friendly company representatives and sufficient job information at the career fair do positively influence students' application intentions, whereas the company presentation itself showed no effects on recruitment outcomes. In contrast to this, Baum & Kabst (2011) analyzed the effects of a company presentation as a single recruitment activity in attracting university graduates. For their study, they worked together with one SME and showed that the implementation of a company presentation has a positive effect on the perceived employer brand. Besides, they revealed that the implementation of a firm presentation strengthens students' application intentions. Thereby, SMEs' presentations showed larger effects on students' application intentions than their career fair appearance (Baum & Kabst, 2011).

Although the study by Baum & Kabst (2011) has some limitations, e.g., the cross-sectional design or the reference of the recruitment outcomes to only one employer, its findings are relevant for the present study due to a lack of empirical studies on the single effects of firm presentations. Whereas the firm presentation may lag behind its potential when combining it with other recruitment measures, it could be assumed that its use as a single recruitment activity is very valuable for firms (Baum & Kabst, 2011). This assumption is supported by the classification of firm presentations as high-information and high-involvement recruitment measures. Thus, for the present study, it is

hypothesized that the firm presentation succeeds in strengthening the perceived employer attractiveness of craft firms as well as the pupils' intention to apply.

H_{2a}: The implementation of a firm presentation will improve the pupils' perceptions concerning the employer attractiveness of a craft firm.

H_{2b}: The implementation of a firm presentation will improve the pupils' intentions to apply for apprenticeship training in a craft firm.

Avery & McKay (2006) conducted a conceptually driven analysis concerning the design of site visits as a recruitment activity for attracting female and ethnic or racial minority job applicants, and thereby stated that "these applicants are attracted by different factors than traditional applicants" (Avery & McKay, 2006, p. 157). Thomas & Wise (1999) empirically considered this question and confirmed race and gender as individual factors that imply different reactions to firms' recruitment efforts. The job seekers analyzed in the present study could also be seen as a special employer group, for example because of their young age. As recruitment research has neglected the attraction of pupils to apprenticeship training so far, an examination of these studies' target groups should be carried out in the next section. Thereby, factors should be derived that potentially influence the recruitment outcome among them.

2.3 Relationship of pupils' vocational choices and individual factors with recruitment outcomes

Besides the analysis of whether firm presentations and site visits are effective strategies for attracting potential apprentices and for enhancing potential apprentices' application intentions, the present study has a second research goal. This objective is to gain information about relevant frame conditions of recruitment measures with influence on pupils' application intentions and perceived employer attractiveness. This information is relevant for firms in order to consider these determinants and thereby make recruitment efforts more effective.

As pupils at transition from school to work have to choose not only the employer but also the profession, the pupils' vocational interests, job preferences, and occupational possibilities based on their educational background are assumed to be relevant for the recruitment success of craft firms with firm presentations and site visits. In the following, these possible determinants should be discussed in detail.

Following Soelberg's (1967) theory of unprogrammed decision making, the process of job choice starts with the identification of the ideal occupation (Power & Aldag, 1985). This also applies

to the pupils investigated in the present study. After leaving school, they choose not only an employer but also define their occupational orientation at this career stage. Thereby, pupils are developing ideas about which jobs they prefer. These jobs can be allocated to a broader work environment. A work environment is a classification which contains major occupational areas (Holland, 1997). For example, the motoric environment contains occupations such as laborers, carpenters, or machine operators (Holland, 1959). The training occupation in the craft firms supporting this study—plant mechanic for sanitary, heating, and air conditioning systems—can be assigned to this motoric occupational environment. An environment "represents a somewhat distinctive life style which is characterized by preferred methods of dealing with daily problems and includes such variables as values and "interests", preferences for playing various roles and avoiding others, interpersonal skills and other personal factors" (Holland, 1959, p. 36).

For the pupils investigated in the present study, it is conceivable that they were already at the start of their application period as they had only one more school year to finish. So they are searching for an occupational orientation or maybe even have ideas about which work environment they prefer. Then, if they meet an employer from their preferred work environment, it could be assumed that pupils with appropriate vocational interests will show more positive reactions concerning the perceived employer attractiveness and their intentions to apply for apprenticeship training.

H_{3a}: Pupils' interest in tasks from the crafts sector will be positively related to their evaluations of a craft firms' employer attractiveness.

H_{3b}: Pupils' interest in tasks from the crafts sector will be positively related to their intentions to apply for apprenticeship training in a craft firm.

Nevertheless, according to the theory of Holland (1959), vocational interest is not the only determinant when choosing an occupation. A specific lifestyle or a role goes along with an occupation that an apprentice gets involved with. Thus, only considering potential apprentices' interests is not enough in dealing with employer attractiveness and pupils' application intentions because it is possible that job seekers have interests or skills but do not pursue them because they prefer another lifestyle (Holland, 1959). Hence, it has to be analyzed more concretely whether pupils can imagine choosing apprenticeship training in the crafts sector. Thereby, it could be assumed that pupils with a preference for a job in the crafts sector will show more positive reactions concerning the perceived employer attractiveness and the intentions to apply for apprenticeship training.

H_{4a}: Pupils' preference for a job in the crafts sector will be positively related to their evaluations of a craft firms' employer attractiveness.

H_{4b}: Pupils' preference for a job in the crafts sector will be positively related to their intentions to apply for apprenticeship training in a craft firm.

In occupational choice, educational background also seems to be relevant. It limits the opportunities for pupils' future development as many employers or occupations are only open to pupils with specific educational requirements (Holland, 1959). This in turn influences pupils' perceptions about their occupational alternatives. Although Chapman et al. (2005) showed that perceived alternatives have no influence on applicant attraction and Taylor & Bergmann (1987) revealed labor market opportunities with no effects on recruitment processes, it is feasible that many perceived opportunities "have a negative effect on attraction to any specific opportunity" (Chapman et al., 2005, p. 930). Thus, it is assumed that pupils with lower educational attainment and thereby lower vocational opportunities will be influenced more by the personnel marketing activities of the craft firms than pupils with a higher educational background who will be more selective in their demands.

H_{5a}: Pupils' evaluations of a craft firms' employer attractiveness will vary significantly with their educational background.

H_{5b}: Pupils' intentions to apply for apprenticeship training in a craft firm will vary significantly with their educational background.

2.4 Firms' possibilities of steering recruitment outcomes

Besides the influence of pupils' vocational orientation on the recruitment process, firms could consider diverse points when planning recruitment activities in order to strengthen their recruitment success. In this context, Collins (2007) found evidence for the importance of high firm awareness before contacting job seekers with recruitment activities. He confirmed that "the effectiveness of recruitment practices depends on the degree to which job seekers have already developed employer knowledge through exposure to nonrecruitment sources of information" (Collins, 2007, p. 180). This finding could be explained through theories of learning, for example with the "Levels of Processing" approach of Craik & Lockhart (1972), in which prior direct or indirect examination with information on a certain subject brings more rapid integration of new information. This applies because of already existing cognitive structures in that subject. In contrast to other studies that have not found pre-firm awareness as an intensifying mechanism but rather as obstructive for recruitment success (Rynes et al., 1991; Turban et al., 1995), in the present study, the learning effects are assumed to dominate. Neither as a result of previous recruiting events nor as a direct customer but, for example, because they are located in the same township, pupils might have access to prior information on the craft firms and are therefore likely to have cognitive concepts of those firms as employers. This access might even form prior attitudes to the firms (Van Hoye & Lievens, 2005), which again regulate pupils' motivation for information processing during the recruitment activities (Cable & Turban, 2003). Therefore, it is

hypothesized that this prior awareness of the firms as employers influences the recruitment success of the craft firms.

H_{6a}: Pupils' pre-firm awareness will be positively related to their evaluations of a craft firms' employer attractiveness.

H_{6b}: Pupils' pre-firm awareness will be positively related to their intentions to apply for apprenticeship training in a craft firm.

After participating in recruitment activities, job seekers often complete their view of the recruiting firms by searching for further information. In this information process, Allen et al. (2007) found the firms' web-sites to be an important instrument for attracting potential employees. In the case of pupils as young job seekers, exchanges with parents after the recruitment activities might also play an important role in the information process and vocational orientation because pupils are using their parents as role models (Chlosta et al., 2012; Schmitt-Rodermund, 2004). Furthermore, pupils can exchange views on an employer with peers. Given that young job seekers, as analyzed in the present study, are highly affected by the attitudes of friends and classmates (Kilduff & Krackhardt, 1994), these exchanges after the recruitment measures might influence the development of pupils' perceived employer attractiveness and application intentions. Thus, in the present study, the post-information process is assumed to have an influence on pupils' evaluation of the firms as potential employers.

H_{7a}: Pupils' information procurement after the recruitment measures will be positively related to their evaluations of a craft firms' employer attractiveness.

H_{7b}: Pupils' information procurement after the recruitment measures will be positively related to their intentions to apply for apprenticeship training in a craft firm.

3 Methods

3.1 Implementation, design, and respondents of the study

In October 2012, the Bavarian Ministry of Education approved the realization of the present study in cooperation with Bavarian secondary schools. With this permission, the headmasters of 56 secondary schools were informed about the study, first in writing and then through personal consultations. In sum, 34 schools confirmed their participation, resulting in observations from 62 classes. Concerning school types, 22 so-called "Mittelschulen" (classes from the eighth grade) and 12 "Realschulen" (classes from the ninth grade) were included. For the organizational development of the project and the execution of the survey, one teacher per class was given as a contact person. Appointments for the implementation of the site visits or firm presentations as well as for the completion of the questionnaires before and after the recruitment activities were made with these teachers. Pupils and their parents were informed by a letter about the recruitment measures. Only if pupils and parents had provided their commitment to filling out questionnaires, pupils were included in the survey. Regardless of the commitment to participate in the survey, all pupils from the classes were invited to take part in the recruitment activities.

The recruitment measures were carried out between November and December 2012 by 14 SMEs from the crafts sector. All SMEs belong to the branch of sanitary, heating, and air-conditioning technology firms. As mentioned before, they provide apprenticeship training positions for plant mechanics for sanitary, heating, and air conditioning systems. All firms are located in Bavaria, five in urban and nine in rural areas. For the matching of firms and schools, regional aspects were taken into account to give a realistic impression of the recruitment of apprentices, as schools mainly cooperate with regional employers. The 14 SMEs show different firm sizes, measured by the number of employees. The division of the craft firms into firm size categories is based on the recommendations of the Federal Statistical Office of Germany and the Institute for SME Research (Statistisches Bundesamt, 2011; Wolter & Hauser, 2001). For an overview of the firm sizes, see Table 1.

Table 1: Distribution of the 14 SMEs in firm size categories

Firm size category	1–4 employees	5–9 employees	10–19 employees	20–49 employees	50–249 employees	>250 employees
Number of firms per category	1	1	2	5	4	1

Concerning its design, this study was developed as a quasi-experimental field study (Campbell & Stanley, 1963). In comparison with laboratory experiments, field studies imply a high external validity as they take place in natural environments and realistic contexts (Huber, 2005). This study contains pupils in treatment groups (site visit or firm presentation) and pupils in control groups

without a treatment. To prevent firms organizing the treatments according to their own discretion—which makes it impossible to detect clearly whereby possible regression effects are caused—obligatory guidelines for the site visits and firm presentations were given (Schnell et al., 2008). The equalization of experimental conditions included the duration, content, and structure of the treatments as well as the given amount of information on the employer and apprenticeship training, e.g., concerning tasks, prospects for personal growth, working atmosphere, wages, etc. Thus, emerging variances in pupils' employer attractiveness ratings and in pupils' intentions to apply stem only from firm differences or from differences between the pupils but not from the treatments' design (Cook & Campbell, 1979).

In quasi-experimental designs, participants are not randomly allocated to an experimental setting (Huber, 2005). This also applies in the present study, where firms and schools (i.e., pupils) were matched through regional considerations. Moreover, because of fixed class membership, pupils remained in their class and were not assigned to one treatment (site visit or firm presentation) or to the control group on an individual level. Nevertheless, classes were perceived as entities for which one treatment or the control setting was randomly selected. Thereby, pupils had no information about which setting they were assigned to. Furthermore, pupils from the control group were not officially informed about the treatments for the other classes. To ensure this procedure, an agreement was made with the contact teacher.

The surveys took place two weeks before and two weeks after the implementation of the treatments. Overall, 717 pupils (site visit: n = 249, firm presentation: n = 189, control group: n = 279) participated voluntarily. The pupils who served as the control group filled in the questionnaires at the same time as the treatment classes from the same school. All participating pupils had an identification number to match the two observations and to construct the panel structure. The sample contains n = 384 pupils (53.56%) from "Mittelschule" and n = 333 (46.44%) pupils from "Realschule". They both attended class levels with one more school year still to finish before graduation. Thus, it could be assumed that the recruitment activities were presented at a suitable time as pupils are already searching for future prospects (Rynes & Barber, 1989). For reasons of anonymity, it was not possible to collect information about the age of the pupils. However, it can be assumed that the age ranges between 13 and 16 years in these class levels. Concerning gender, male pupils are predominant in the sample (n = 415, 58.16%). 66.95% (n = 480) of pupils are from rural areas; 33.05% (n = 237) live in urban regions.

Each pupil in the treatment group had contact with only one of the 14 SMEs, either at a firm presentation or on a site visit. The firm presentation as a recruitment event took about one hour at school and was held by the company's head and a current apprentice. The site visit was also conducted through the company's head and an apprentice but—because of its demanding conception—took about three hours and was held at the firms' sites. Through the involvement of a current apprentice, it was intended that the contact between job seekers and firm staff of almost the same age might strengthen

job seekers' belief of fitting in with the company or the job (Cable & Judge, 1996). In both treatments, pupils were informed about the firm using a PowerPoint presentation and the showing of a short video to illustrate the key aspects of the apprenticeship training. The firm presentation ended with a final discussion, in which pupils could clarify outstanding issues. After the introductory presentation and video, the site visit continued with a guided tour through the offices and work places. After that, pupils were offered the possibility of gaining firsthand work experience. Under the guidance of firm representatives, pupils tested their craft skills by working on activities that are typical of the apprenticeship training. At the end of the site visit, there was an informal get-together with snacks and the opportunity for personal discussions.

Pupils from the control group had no contact with firms but were also asked to fill out questionnaires for the craft firm they were assigned to. The structure of the pre- and post-survey was identical for pupils from the treatment and control groups. Thereby, the pre-questionnaire began with an introductory page that contained general notes on the research project and instructions for the completion of the questionnaire. Next, questions about pupils' vocational interests, about their demands that a preferred employer has to meet, and about the personal understanding of their vocational future, were asked. Then, questions about the assigned firm followed. At the end of the questionnaire, some socio-demographic measures on the pupils were collected. The post-questionnaire also contained an introductory page and questions about the assigned firm. The pre-survey questionnaire took approximately 20 minutes and the post-survey questionnaire about 15 minutes to complete.

3.2 Empirical strategy

Effects of the site visit and the firm presentation on perceived employer attractiveness and on pupils' intentions to apply were estimated using a difference-in-differences (DID) model (Wooldridge, 2009). Thereby, DID is similar to a fixed effects regression with aggregated data (Angrist & Pischke, 2009). The "average treatment effect" or "DID estimator" reflects the change in the dependent variable in the treatment group between the observations less the change in the dependent variable in the control group between the surveys (Bertrand et al., 2004). The estimation model of the present study shows the following basic equation:

$$y_{it} = \beta_0 + \beta_1 \, period_t + \beta_2 \, treatment_i + \beta_3 \, (period_t * treatment_i) + \beta_k \, X_{k,i} + e_{it}$$

The dependent variable y_{it} varies between the hypotheses tested. The equation contains a dummy variable reflecting the periods (follow-up period = 1) and a dummy variable indicating pupils from the treatment group (= 1) in contrast to the control group. β_3 represents the average treatment effect. The vector $X_{k,i}$ captures all control variables; these are explained in Table 2. An overview of the survey items of the dependent (Table A1) and independent variables (Table A2) is given in the appendix.

Table 2: Description of independent regression variables

Variable	Description	Mean	SD
Company characteristics			
Firm size	Establishment size in 6 categories; Reference category: "Firm size (20–49 employees)"	4.21	1.12
Earnings	Pupils' evaluation of earning opportunities at the craft firm; Variable aggregated from 3 items measured on a six-point Likert scale (1 = strongly disagree; 6 = strongly agree)	3.45	1.24
Development opportunities	Pupils' evaluation of development opportunities at the craft firm; Variable aggregated from 5 items measured on a six-point Likert scale (1 = strongly disagree; 6 = strongly agree)	3.24	1.10
Job security	Pupils' evaluation of job security at the craft firm; Variable aggregated from 2 items measured on a six-point Likert scale (1 = strongly disagree; 6 = strongly agree)	3.83	1.37
Working climate	Pupils' evaluation of working climate at the craft firm; Variable aggregated from 2 items measured on a six-point Likert scale (1 = strongly disagree; 6 = strongly agree)	4.07	1.44
Working content	Pupils' evaluation of working content at the craft firm; Variable aggregated from 2 items measured on a six-point Likert scale (1 = strongly disagree; 6 = strongly agree)	3.45	1.40
Working conditions	Pupils' evaluation of working conditions at the craft firm; Variable aggregated from 6 items measured on a six-point Likert scale (1 = strongly disagree; 6 = strongly agree)	3.56	1.06
Firm location	Dummy = 1 if location is in a urban region, 0 otherwise	0.33	.47
Pupils' characteristics			
Vocational interest craft	Interest in tasks that can be attributed to the crafts sector; Variable aggregated from 10 items measured on a five-point Likert scale (1 = I am not interested; 5 = I am very interested)	2.67	.85
Career craft	Dummy = 1 if preferred job is in crafts sector, 0 otherwise	0.57	.50
Sex	Dummy = 1 if pupil is female, 0 otherwise	0.42	.49
School	Dummy = 1 if type of school is "Mittelschule", 0 otherwise ("Realschule")	0.54	.50
Grade point average	Grade point average in last school report	2.51	.67
Pre-firm awareness	Dummy = 1 if firm is familiar before treatment, 0 otherwise	0.58	.49
Additional information	Dummy = 1 if pupil procures additional information on the firm or apprenticeship training between treatment and second survey, 0 otherwise	0.14	.35
Distance to firm	Distance to work in 6 categories; Reference category: "Distance to firm (≤15 min)"	2.20	1.29

All numbers are based on the sample of pupils from the site visit: n = 249, the firm presentation: n = 189 and the control group: n = 279

The relevance of pupils' vocational interest, their preference for a job in the crafts sector, and their educational background for recruiting processes has been addressed by deriving the hypotheses in section 2.3. In section 2.4, job seekers' pre-firm awareness and the influence of additional information after the recruitment activities on employer attractiveness and application intentions were elaborated. Furthermore, in section 2.1, the importance of employer and job attributes has been pointed out. Thus, only the relevance of firm size, firm location, distance of pupils to the workplace as well as pupils' educational achievements and pupils' gender as control variables for the regression analysis has to be discussed.

The value of firm size for pupils' job choice was analyzed in the study by Schank (2011). He showed that firm size influences young job seekers in choosing an apprenticeship firm as large sizes were attributed a higher attraction. In a sample of students, Lievens et al. (2001) also found this relationship. Furthermore, it is confirmed that pupils' perceptions of an employers' strengths and weaknesses vary systematically with firm size (Schank, 2011). However, SMEs are perceived to have a better working atmosphere and large firms are perceived to provide better opportunities for further training (Schank, 2011). Because the 14 craft firms that supported this study differ in size, a control variable for firm size was inserted into the regression.

Turban et al. (1995) detected a positive relationship between firm location and the job acceptance intentions of students. Boswell et al. (2003) found the location to be the largest source for the job choice decisions of students. Regarding younger job seekers, Böhme (2007) analyzed the regional mobility of Bavarian apprentices and showed that firm location also plays an important role in their recruitment processes and apprenticeship decisions. In the present study, firms and assigned pupils are located in the same urban or rural area. Nevertheless, urban firms face a different recruitment situation than rural firms. Urban regions offer young people many more options besides starting an apprenticeship training, which leads to a lower average number of urban pupils showing interest in apprenticeship training (Böhme, 2007). In order to control for differences in the craft firms' location, a dummy for the location was included in the regression analysis.

Besides firm location, pupils' proximity to the workplace also plays an important role in the decision to choose an employer and apprenticeship training (Böhme, 2007). In this context, the regional mobility of young job seekers has to be considered. In Bavaria, in the case of one third of all apprentices, the workplace corresponds with the place of residence. Also, in regions with less availability of apprenticeships, apprentices do not have significantly longer distances to cover (Bogai et al., 2008). Thus, the regional proximity of pupils to the recruiting craft firms is assumed to have an influence on perceived employer attractiveness and on the intentions to apply for apprenticeship training. A variable controlling for the distance of pupils to the firms was integrated in the regression.

Chapman et al. (2005) identified job seekers' perceived alternatives as a predictor for the attraction to an organization and the job choice. Alternatives for pupils' vocational future are limited by the type of school. This has already been discussed in section 2.3. But further, the progress in recruitment processes also varies with the educational attainments of job seekers that are reflected by the grade point average (Rynes et al., 1991). Thus, pupils' grade point averages from the last school report were taken into account as a control variable in the present study.

Professions from the motoric work environment, to which the plant mechanic for sanitary, heating, and air conditioning systems belongs, are often practiced by those who "enjoy activities requiring physical strength, aggressive action, motor coordination and skill; and perhaps above all they wish to play masculine roles" (Holland, 1959, p. 36). That gender plays a role in the job choice of pupils was observed specifically in the annual report of the Federal Ministry of Education and Research (2013). Whereas female pupils predominantly take up commercial training or professions in the health sector, young men mainly start apprenticeship training in mechanical and technical professions with the plant mechanic for sanitary, heating, and air conditioning systems in the fifth position. Moreover, in the study by Thomas & Wise (1999), gender was shown to be a significant factor in explaining differences in job seekers' perceived employer attraction. Thus, in the present study, the model was controlled for pupils' reactions to the personnel marketing activities of craft firms that could vary by gender.

3.3 Measures

Employer attractiveness. The perceived attractiveness of firms was measured using three items based on Turban & Keon (1993) on a Likert scale ranging from 1 = *strongly disagree* to 6 = *strongly agree*. An exemplary item is "I would do a lot to work for this company". The scale showed good reliability ($\alpha = .88$).

Application intentions. The application intention was measured with one item adapted from Highhouse et al. (2003) and Taylor & Bergmann (1987). Pupils responded to the item "I intend to apply for a technical apprenticeship position with this organization" on a 6-point Likert scale from 1 = *very unlikely* to 6 = *very likely*.

Employer and job characteristics. Pupils indicated their agreement with employer and job characteristics with 20 items, again measured on a 6-point Likert scale ranging from 1 = *strongly disagree* to 6 = *strongly agree*. A sample item is "This company has good opportunities for career advancement". The relevance of the 20 employer and job attributes to the job search of young people and for characterizing SMEs as employers was derived from previous research (e.g., Boswell et al., 2003; Cable & Graham, 2000; Cable & Judge, 1996; Collins, 2007; Lievens et al., 2001; Lievens &

Highhouse, 2003; Nadler et al., 2010; Tumasjan et al., 2011). Moreover, based on these former studies, a classification of employer and job attributes was conducted. The factor "Earnings", which contains monetary incentives for a job choice, is represented by three items (α = .87) and the factor "Development opportunities" by five items (α = .83). For both factors, the reliability analysis revealed good item convergence. The factors "Job security" (α = .78; acceptable item convergence), "Working climate" (α = .88; good item convergence), and "Working content" (α = .83; good item convergence) were formed with two items each. The factor that reflects "Working conditions" contains six items with a good scale reliability (α = .82).

Vocational interest craft. This variable was measured using 10 items adapted from Bergmann & Eder (2005). Pupils were asked to respond to listed activities using a 5-point Likert scale from 1 = *I am not interested in* to 5 = *I am very interested in*. A sample item is "Working on a building site". The scale reliability coefficient was good (α = .83).

4 Results

4.1 Summary statistics

Table A3 in the appendix presents means, standard deviations, and correlations between all dependent (lines 1–2) and independent variables (lines 3–28). The dependent variables are not used in the same regression analysis. Almost all correlations between the independent variables show coefficients far below the critical value of .70 (Anderson et al., 1996). Only factors that contain the employer and job attributes stick out from the matrix with high correlations among themselves (see Table A3). To control for whether multicollinearity problems are given, the variance inflation factors (VIF) were calculated (Backhaus et al., 2003; Wooldridge, 2009). The analysis of the VIF showed that all values are well below the conventional critical levels (Earnings = 2.9; Development opportunities = 4.6; Job security = 3.1; Working climate = 2.9; Working content = 2.9; Working conditions 4.0) (Chatterjee et al., 2000; Urban & Mayerl, 2006).

4.2 Hypotheses tests

Table 3 displays the results of the regression analyses for *Hypotheses 1a* and *1b*. It was predicted that the implementation of a *site visit* will increase pupils' perception of craft firms' employer attractiveness (Hypothesis 1a). Moreover, it was assumed that participation in a *site visit* will positively influence pupils' application intentions so that afterwards more pupils can imagine applying for apprenticeship training in the corresponding craft firm (Hypothesis 1b). Contrary to these assumptions, the site visit has no effect on either the development of employer attractiveness or the potential to strengthen young job seekers' application intentions. The variable "Impact site visit", which reflects the average treatment effect, was insignificant in both DID analyses. However, important variables that show significant effects in both models are pupils' perceptions regarding the development opportunities at the craft firms (for "Attractiveness": $\beta = .266$, $p<.01$; for "Intentions to apply" $\beta = .211$, $p<.01$) or pupils' interest in tasks that can be attributed to the crafts sector. Thereby, pupils with greater interest show higher attractiveness evaluations and indicate a stronger intention to apply to the firms (for "Attractiveness": $\beta = .154$, $p<.01$; for "Intentions to apply" $\beta = .181$, $p<.01$). Moreover, the preference for a job in the crafts sector (variable "Career craft") and the additional information that pupils gain between the treatment and the second survey are variables with significant effects in both DID regressions (see Table 3).

Hypotheses 2a and *2b* aimed to take a closer look at the effects of the *firm presentation*. Table 4 shows the regression models for testing the effects on perceived employer attractiveness (model 1) and pupils' intentions to apply for apprenticeship training (model 2). Similar to the results for the site

visit, the firm presentation failed to influence the pupils' recruitment process. The firm presentation neither strengthens pupils' attractiveness evaluations pertaining to the craft firms as possible apprenticeship companies nor impacts pupils' application intentions. Hence, the positive effects that were assumed for the firm presentation with Hypotheses 2a and 2b were not confirmed. As in the site visit setting, the firm presentation shows important factors with influence on pupils' attractiveness perceptions and recruitment behavior. One factor that captures pupils' attention is represented by the development opportunities of craft firms. Furthermore, pupils' general preference for a job in the crafts sector as well as further information pupils receive outside the recruitment activities show significant effects on the recruitment outcomes. In addition, the firm presentation induces significant effects for large craft firms with at least 250 employees: Pupils show better ratings concerning these firms' attractiveness ($\beta = .605$, $p<.01$) and hold higher application intentions ($\beta = .378$, $p<.01$). Interestingly, pupils' perception of the working climate is negatively related to the attractiveness evaluations and the intentions to apply (for "Attractiveness": $\beta = -.093$, $p<.05$; for "Intentions to apply" $\beta = -.128$, $p<.01$).

Besides the analysis, if firm presentations and site visits are effective recruitment strategies, the present study has a second research goal, which is to gain information about factors with relevance for pupils' application intentions and employer attractiveness. To test the assumed determinants, the site visit and the firm presentation were no longer analyzed separately. For *Hypotheses 3a* to 7*b* (Table 5), the samples from both treatments were integrated and set in comparison with pupils from the control group.

Hypotheses 3a and *3b* predicted that pupils' interest in tasks from the crafts sector will be positively related to their evaluations of craft firms' employer attractiveness as well as their intentions to apply for apprenticeship training in a craft firm. The regression analyses in Table 5 show that the results are in line with both assumptions (for "Attractiveness": $\beta = .150$, $p<.01$; for "Intentions to apply" $\beta = .169$ $p<.01$). Moreover, as a stronger predictor than pupils' craft interests, pupils' preferences for a job in the crafts sector emerge in the regression analyses. In line with *Hypotheses 4a* and *4b*, this preference positively affects the employer attractiveness ratings ($\beta = .243$, $p<.01$) as well as the application intentions ($\beta = .252$, $p<.01$) of the pupils.

Hypotheses 5a and *5b* were aimed at the effects of pupils' educational background on employer attractiveness perceptions and intentions to apply. The results show that, contrary to Hypothesis 5a, employer attractiveness ratings are not related to the type of school that pupils attend. Hypothesis 5b dealt with pupils' intentions to apply for apprenticeship training in a craft firm and assumed that they would vary significantly with pupils' educational background. Table 5 shows that Hypothesis 5b was confirmed. Concerning the type of school, pupils from "Mittelschule" who are more limited in their career prospects compared with pupils from "Realschule" hold higher application intentions for the craft firms ($\beta = .185$, $p<.01$).

Hypotheses 6a and *6b* considered the question whether firms should work continuously on their external representation as an employer. It was assumed that it is useful when pupils are aware of firms before participating in those firms' recruitment measures, as this may positively influence the attractiveness ratings and application intentions. However, the regression analysis shows that pre-firm awareness has no effect on the recruitment outcomes of craft firms—either on the perceived employer attractiveness or on the intentions to apply for apprenticeship training. Thus, Hypotheses 6a and 6b have to be rejected. However, the results reveal that the additional information job seekers obtain after recruitment activities have great potential to improve pupils' perceived employer attractiveness (β = .442, $p<.01$) and application intentions (β = .503, $p<.01$). Thus, *Hypotheses 7a* and 7*b* were confirmed.

Apart from the results of the hypotheses tests, it should be noted that firm size only shows effects on the attractiveness ratings when the firm has 250 or more employees (see Table 5). Furthermore, development opportunities appear among the company and job attributes with influence in all regression models (for "Attractiveness": β = .321, $p<.01$; for "Intentions to apply" β = .240 $p<.01$). Whereas earnings seem to be especially relevant for the application intentions of pupils (β = .095, $p<.01$), job security at craft firms (β = .089, $p<.05$) drives only the pupils' attractiveness ratings. An unexpected result is exhibited by the negative effect of the perceived working climate at the craft firms on pupils' application intentions.

In addition, the model was controlled for the regional proximity of pupils and craft firms. Results regarding the pupils' evaluations of the firms' employer attractiveness show that none of the distance categories in model 1 (Table 5) has significant coefficients. Nevertheless, for pupils' intention to apply, the distance to an employer plays an important role. Thereby, distances able to be covered in up to one hour are significantly related to pupils' application intentions. Furthermore, female pupils show lower application intentions (β = -.296, $p<.01$) than their male classmates.

Table 3: DID regressions predicting the impact of the site visit

	Site visit	
	(1)	(2)
Dependent variables:	Attractiveness	Intentions to apply
Period	0.152	0.248***
	(0.086)	(0.077)
Treatment: Site visit	0.127	0.110
	(0.091)	(0.082)
Impact site visit	**-0.058**	**-0.104**
	(0.127)	(0.114)
Firm size (1–4 employees)	0.049	-0.113
	(0.218)	(0.196)
Firm size (5–9 employees)	-0.076	0.228
	(0.149)	(0.134)
Firm size (10–19 employees)	-0.261	-0.259
	(0.156)	(0.140)
Firm size (50–249 employees)	0.104	0.042
	(0.077)	(0.069)
Firm size (250+ employees)	0.249**	-0.082
	(0.113)	(0.102)
Earnings	0.061	0.106***
	(0.042)	(0.038)
Development opportunities	0.266***	0.211***
	(0.060)	(0.054)
Job security	0.086**	0.002
	(0.040)	(0.036)
Working climate	-0.029	-0.063
	(0.037)	(0.033)
Working content	0.093**	0.057
	(0.037)	(0.034)
Working conditions	0.033	0.058
	(0.058)	(0.052)
Firm location	0.054	0.223***
	(0.076)	(0.068)
Vocational interest craft	0.154***	0.181***
	(0.052)	(0.046)
Career craft	0.259***	0.214***
	(0.077)	(0.069)
Sex	-0.114	-0.339***
	(0.080)	(0.072)
School	-0.054	0.195***
	(0.072)	(0.065)
Grade point average	-0.021	-0.002
	(0.049)	(0.044)
Pre-firm awareness	0.059	0.064
	(0.070)	(0.063)
Additional information	0.431***	0.415***
	(0.105)	(0.095)
Distance to firm (≤30 min)	-0.060	0.139**
	(0.077)	(0.069)
Distance to firm (≤45 min)	0.031	0.161
	(0.096)	(0.086)
Distance to firm (≤1 hour)	0.082	0.249**
	(0.140)	(0.126)
Distance to firm (≤1.5 hours)	-0.060	-0.284
	(0.179)	(0.162)
Distance to firm (>1.5 hours)	-0.013	-0.129
	(0.191)	(0.172)
Constant	0.055	-0.391**
	(0.220)	(0.198)
Observations [a]	1,056	1,056
R-squared	0.365	0.341

DID regression, standard errors in parentheses
All models are significant (p<.00); *** p<.01, ** p<.05
[a] Time-series cross-sectional data with site visit: n = 249, control group: n = 279

Table 4: DID regressions predicting the impact of the firm presentation

	Firm presentation	
	(1)	(2)
Dependent variables:	Attractiveness	Intentions to apply
Period	0.154	0.246***
	(0.087)	(0.081)
Treatment: Firm presentation	0.144	0.131
	(0.100)	(0.093)
Impact firm presentation	**-0.116**	**-0.175**
	(0.140)	(0.129)
Firm size (1–4 employees)	0.077	0.006
	(0.156)	(0.145)
Firm size (5–9 employees)	-0.292	-0.012
	(0.168)	(0.155)
Firm size (10–19 employees)	-0.028	-0.151
	(0.183)	(0.170)
Firm size (50–249 employees)	-0.009	-0.144
	(0.085)	(0.079)
Firm size (250+ employees)	0.605***	0.378***
	(0.128)	(0.119)
Earnings	-0.002	0.102**
	(0.045)	(0.042)
Development opportunities	0.365***	0.288***
	(0.065)	(0.060)
Job security	0.083	0.004
	(0.043)	(0.040)
Working climate	-0.093**	-0.128***
	(0.039)	(0.036)
Working content	0.047	0.061
	(0.040)	(0.037)
Working conditions	0.125**	0.083
	(0.062)	(0.057)
Firm location	0.036	0.306***
	(0.087)	(0.080)
Vocational interest craft	0.096	0.058
	(0.055)	(0.051)
Career craft	0.308***	0.335***
	(0.083)	(0.077)
Sex	-0.044	-0.262***
	(0.087)	(0.081)
School	-0.165**	0.113
	(0.082)	(0.076)
Grade point average	0.054	0.102**
	(0.053)	(0.049)
Pre-firm awareness	-0.020	-0.041
	(0.076)	(0.071)
Additional information	0.521***	0.655***
	(0.115)	(0.107)
Distance to firm (≤30 min)	0.053	0.176**
	(0.086)	(0.080)
Distance to firm (≤45 min)	0.071	0.173
	(0.108)	(0.100)
Distance to firm (≤1 hour)	0.106	0.131
	(0.142)	(0.132)
Distance to firm (≤1.5 hours)	-0.081	-0.093
	(0.166)	(0.154)
Distance to firm (>1.5 hours)	-0.035	0.030
	(0.176)	(0.163)
Constant	0.021	-0.433
	(0.240)	(0.222)
Observations [a]	936	936
R-squared	0.374	0.377

DID regression, standard errors in parentheses
All models are significant (p<.00); *** p<.01, ** p<.05
[a] Time-series cross-sectional data with firm presentation: n = 189, control group: n = 279

Table 5: DID regressions for estimating the effects of recruitment conditions

	Recruitment measures	
	(1)	(2)
Dependent variables:	Attractiveness	Intentions to apply
Period	0.165	0.256***
	(0.087)	(0.082)
Treatment: Site visit or firm presentation	0.131	0.139
	(0.080)	(0.075)
Impact recruitment measures	**-0.105**	**-0.143**
	(0.113)	(0.107)
Firm size (1–4 employees)	0.108	0.007
	(0.152)	(0.143)
Firm size (5–9 employees)	-0.151	0.069
	(0.130)	(0.123)
Firm size (10–19 employees)	-0.058	-0.123
	(0.133)	(0.125)
Firm size (50–249 employees)	0.096	-0.047
	(0.068)	(0.064)
Firm size (250+ employees)	0.299***	-0.022
	(0.098)	(0.092)
Earnings	0.032	0.095***
	(0.036)	(0.034)
Development opportunities	0.321***	0.240***
	(0.053)	(0.050)
Job security	0.089**	0.016
	(0.035)	(0.033)
Working climate	-0.053	-0.075**
	(0.032)	(0.030)
Working content	0.064	0.048
	(0.033)	(0.031)
Working conditions	0.096	0.073
	(0.051)	(0.048)
Firm location	0.068	0.212***
	(0.066)	(0.062)
Vocational interest craft	0.150***	0.169***
	(0.045)	(0.042)
Career craft	0.243***	0.252***
	(0.067)	(0.063)
Sex	-0.088	-0.296***
	(0.069)	(0.065)
School	-0.079	0.185***
	(0.063)	(0.060)
Grade point average	-0.000	0.028
	(0.042)	(0.039)
Pre-firm awareness	0.018	0.005
	(0.061)	(0.058)
Additional information	0.442***	0.503***
	(0.083)	(0.079)
Distance to firm (≤30 min)	-0.017	0.164**
	(0.068)	(0.064)
Distance to firm (≤45 min)	0.030	0.137
	(0.084)	(0.079)
Distance to firm (≤1 hour)	0.101	0.239**
	(0.116)	(0.109)
Distance to firm (≤1.5 hours)	-0.166	-0.104
	(0.151)	(0.142)
Distance to firm (>1.5 hours)	-0.102	-0.130
	(0.154)	(0.145)
Constant	-0.084	-0.512***
	(0.198)	(0.187)
Observations [a]	1,434	1,434
R-squared	0.374	0.345

DID regression, standard errors in parentheses

All models are significant (p<.00); *** p<.01, ** p<.05

[a] Time-series cross-sectional data with site visit: n = 249, firm presentation: n = 189, control group: n = 279

5 Discussion

This study contributes to the recruitment literature in several ways. To the author's knowledge, no other study with a matched data set exists that focuses on pupils as future skilled workers in combination with SMEs as potential employers. Furthermore, the design of this study as a quasi-experimental survey allows deeper insights into the actual effects of recruitment activities on recruitment outcomes. More specifically, the present paper aims to investigate the effects of the implementation of two commonly used recruitment measures in practice—the site visit and the firm presentation—for the attraction of potential apprentices (Kay et al., 2010; Wagner et al., 2012). Thereby, the outcomes of craft firms' recruitment activities were measured by pupils' employer attractiveness ratings and pupils' application intentions as important recruitment variables that firms generally want to enhance (Cable & Turban, 2001; Chapman et al., 2005). Moreover, for gaining useful information that recruiting firms can apply besides carrying out site visits or firm presentations in cooperation with schools, several hypotheses concerning young job seekers' individual characteristics (e.g., interest in tasks from the crafts sector) or firms' contributions to recruitment success (e.g., providing job seekers with additional information) were made and analyzed with respect to the recruitment outcomes.

Concerning the *site visit*, the results of different empirical studies were presented (see section 2.2). Following the results of Taylor & Bergmann (1987) and Turban et al. (1995), the site visit was predicted as a successful tool in enhancing pupils' employer attractiveness and intention to apply for apprenticeship training. As the regression analysis shows, the site visit failed in strengthening perceived employer attractiveness and application intentions of the pupils. Perhaps the results can be partially attributed to the poor standing of the crafts sector as an employer among young people in general. In this context, a representative survey revealed that over 75% of the young people between 14 and 18 years examined are of the opinion that the crafts sector has a low social consideration (Zentralverband des Deutschen Handwerks, 2009). This view may explain the more cautious position that the pupils in the present study took toward the recruitment activities of the craft firms (Kanar et al., 2008).

Moreover, the regression analyses from the site visit setting indicate that pupils who initially showed greater interest in tasks from the crafts sector and could initially imagine taking up a crafts profession also reveal higher attractiveness ratings and application intentions. Considering this, the results can also be interpreted to the effect that the site visit supports pupils with regard to a preference-based decision for a future employer. This could be seen as positive for schools as well as for firms that implement these measures. By approving site visits, schools can foster the career orientation of their pupils, and craft firms can benefit from inspiring only pupils with matching interests and preferences. Nevertheless, the failure of the recruitment measures in improving all participating pupils' employer attractiveness and application intentions can be explained by the

assumption that most pupils in the sample had non fitting interests and preferences regarding the employer or the profession.

To gain more insight into why the site visit failed and how to improve craft firms' employer attractiveness and pupils' application intentions, further research is necessary. Thereby, it could be examined whether only single parts of the site visit have to be changed or improved to meet pupils' requirements. Moreover, it could be interesting to see whether the site visit falls short of its potential only for recruitment to craft firms or also for recruitment to firms from other industries which a priori have a better reputation. In addition, it would be interesting to know whether the timing of the implementation of the site visit was too late. Possibly, the interests and preferences of the pupils from the eighth and ninth grades are already too well established to substantially influence those with a single-contact recruitment measure such as the site visit. In this case, it could be investigated whether the site visit is effective when implementing it at an earlier stage in the career orientation process.

Concerning the *firm presentation*, the theoretical concepts of Collins & Han (2004) as well as the empirical results of Baum & Kabst (2011) were used. From these, assumptions regarding the positive effects of the firm presentation on perceived employer attractiveness and the application intentions of young job seekers were derived. Nevertheless, the results revealed that the hypotheses for the firm presentation have to be rejected. Considering the results for the site visits, which provided more verified information than the firm presentations (see sections 2.2 and 3.1), the lesser influence of the firm presentations as less expensive recruitment activities is plausible. A further explanation for the failure of both recruitment measures may lie in the great information asymmetry and uncertainty about the organization, the workplace, and the apprenticeship training that pupils face despite their participation in a site visit or a firm presentation (Spence, 1973). Especially in connection with vocational choice and its great importance for individuals, young job seekers' uncertainty may increase again (Sauermann, 2005). In addition to this, the recruitment activities allowed pupils to have only one and not a continuous contact with craft firms. Thus, further research might also investigate whether the combined effects of the site visit or the firm presentation with other recruitment measures over a longer period of time are effective in strengthening employer attractiveness and the application intentions of pupils toward craft employers.

In comparison with the results of the site visit, the analysis of the firm presentation setting shows no correlation of the pupils' interests in tasks from the crafts sector and pupils' attractiveness ratings and application intentions. An explanation for this could be that the firm presentation represents rather a theoretical contact with a potential occupation and is therefore less capable of activating those pupils who are interested in tasks associated with that occupation. Nevertheless, the sector from which the recruiting firms come is relevant for recruiting success: The pupils from the firm presentation setting who have a general preference for a job in the crafts sector react positively to the craft firms and exhibit higher attractiveness ratings and application intentions.

For both recruitment measures—the site visit and the firm presentation—the missing effects on pupils' application intentions could be explained by Cable & Turban's (2001) theory of recruitment equity. The theory assumes that the perception of employers' attractiveness is essential because job seekers derive their application intentions from their attractiveness perceptions. As the recruitment activities failed in enhancing craft firms' employer attractiveness among pupils, it is obvious that their potential for enhancing pupils' application intentions is also limited.

For the evaluation of the craft firms' employer attractiveness and for the derivation of application intentions, the potential apprentices from the present study have taken several employer and job attributes into account. Thereby, especially the monetary aspects of the workplaces and possible development opportunities at the craft firms appeared to be relevant for the derivation of application intentions. Surprisingly, perceptions of the working climate during the recruitment activities have a small but significantly negative effect on pupils' application intentions. This is in contrast to previous studies which revealed the working climate as an important factor for recruitment success as well as for the retention of employees (e.g., Wolf, 2012). Thereby, previous studies have shown that the assessment of the working climate is derived from the perception of firm representatives as friendly colleagues (Rynes & Miller, 1983). In the present study, the recruitment measures were implemented by the company's head and a current apprentice. This means that pupils gain an impression of the relationship between company representatives and thereby draw further conclusions about the working climate. Thus, it may be the case that pupils perceived the atmosphere between the representatives as "too good to be true", which in turn led to a negative interpretation.

The second research question in this study, concerning the possibilities of enhancing recruitment measures for apprentices in general, reveals interesting insights. First of all, it is necessary that the employer fits with pupils' vocational interests when implementing recruitment measures, as this contributes to higher attractiveness ratings and application intentions. Furthermore, pupils who show concrete preferences for a job in the crafts sector ascribe significantly higher employer attractiveness to craft firms and reveal significantly stronger application intentions. Not for pupils' attractiveness ratings but for their application intentions, pupils' gender and educational background turned out to be important. Thereby, gender-specific distributions on vocations from the theory of Holland (1959) were confirmed, as male pupils show higher application intentions for the mechanical and technical professions of the craft firms in the present study.

A further possibility for craft firms to influence their recruitment outcomes among pupils is to account for regional school collaborations because the regional proximity between pupils and potential employers has an effect on pupils' application intentions. Whereas pre-firm awareness does not show effects on the investigated recruitment outcomes in the present study, additional information is all the more crucial. With further research, it should be examined whether firms could contribute to or manipulate the information process with specific information sources after the recruitment activities, for example by handing out flyers or establishing social media contacts.

Also worth discussing is the robustness of the results to changes in certain study details. The present study was executed with 14 firms from the sanitary, heating, and air-conditioning technology sector. This sector is a progressive branch, which offers professions with excellent future prospects. Moreover, the "plant mechanic for sanitary, heating, and air conditioning systems" is a popular profession among the apprenticeship occupations of the crafts sector (Federal Ministry of Education and Research, 2013). As firms from this trade were not able to gain an improvement in their perceived employer attractiveness and pupils' application intentions, it could be assumed that other crafts occupations with similar popularity may also fail with firm presentations or site visits. Thereby, it could be assumed that the results are not country-specific and are robust to an expansion to pupils beyond Bavaria.

Despite the strengths of the present study, it also has some limitations. As already mentioned, this study was designed as a field study for depicting the apprenticeship market as well as the recruiting processes in a realistic way. However, by implementing the recruitment measures in schools or in the firms' headquarters, there may be some disruption factors that could not be excluded (Huber, 2005). Furthermore, in the present study, pupils only had to evaluate one possible employer and not several employers in comparison with each other. To include this aspect, the study would have had to be designed as a within-subject survey, which Collins (2007) or Collins & Stevens (2002) had implemented in their research.

Furthermore, the limitations of this study constrain the generalizability of the results. Because of the cooperation with firms from the sanitary, heating, and air-conditioning technology sector which belongs to the crafts sector, the findings have to be verified on a broader sample of SMEs from different sectors. The number of firms also has to be enlarged above 14 SMEs. In addition, the present study was supported by firms on a voluntary basis. Thus, there might be a selection bias concerning the cooperating firms. On the one hand, the firms could be generally good performers and attractive employers with no problems in finding suitable apprentices and therefore offered their participation. On the other hand, it may be that firms with difficulties in finding apprentices were attracted by the study and used their participation in the hope of changing their situation. Considering the results, it is possible that the second bias might apply in the firm sample in the present study. Moreover, pupils took part in the survey voluntarily. It could be assumed that only motivated pupils completed both questionnaires. Thus, the sample might include predominantly job seekers with a high information processing motivation, which does not reflect the typical recruitment situation among pupils.

6 Practical implications

Among others, the relevance of the present study is indicated by its results, which are of particular interest for several stakeholder groups—once from the perspective of pupils' career orientation (schools) and otherwise from the perspective of apprentice recruitment (SMEs in general, craft firms, and craft organizations). These stakeholders have committed themselves to working together on the fulfillment of the "National Pact for Career Training and Skilled Manpower Development" and thereby also pursue individual interests depending on each perspective.

For craft firms implementing site visits and firm presentations, the results show that their previous efforts in conducting these measures have only led to unsatisfactory results. At this point, it has to be considered whether further participation in these measures with school cooperation are justifiable from a time and cost perspective. In further research, it will have to be clarified whether the failure of the recruitment measures is due to the crafts sector as an unattractive sector or to the recruitment measures or a combination of both. Generally, the recruitment measures have the potential for improvement. Whereas the firm presentation is limited in time and because of its implementation at school, the potential of site visits is given by the design of the vocational workshops, where pupils can perform typical tasks from the apprenticeship training.

Besides the improvement of the firm presentation and the site visit, SMEs in general, craft firms, and their member organizations (e.g., crafts chambers) have to design new measures for the recruitment of apprentices. If the failure of the recruitment measures is due to the sector, crafts organizations in particular have to work on an improvement in the whole sector's image. Perhaps individual firms' recruitment measures will only be successful after a general change in the craft sector's image as an employer has taken place.

Based on the results of this study, proposals could be made concerning the improvement of recruitment events for apprentices. For pupils in the present study, the participation in site visits or firm presentations did not occur on a voluntary basis as a whole class was assigned to a setting and thereby to a craft firm as a possible employer. Thus, individual preferences for a job in a specific area were not considered. However, the analysis shows that a voluntary distribution of pupils may be useful for recruitment success. This might lead to preselection regarding the vocational interests, preferences for apprenticeship trainings in a specific area, and gender-specific differences. Furthermore, firms should concentrate on regional recruitment activities to recruit apprentices, as short distances to cover show significant effects on pupils' application intentions. In addition, firms should supply pupils with further information they can study after their participation in recruitment measures. With the development of appropriate information brochures and other information possibilities or by offering contact opportunities (e.g., via social media), there might be a currently untapped potential for firms and their member organizations.

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Appendix

Table A1: Survey items underlying the dependent variables

Employer attractiveness	
How appealing is the firm XY from the crafts sector to you as possible employer? Original text in German: Wie attraktiv findest Du die Firma XY als möglichen Arbeitgeber? All items were rated on a Likert scale (1 = strongly disagree, 6 = strongly agree).	
Variable	*Survey item*
First choice for application	*This company is one of the first I would apply to.* Original item in German: Die Firma gehört zu den ersten Adressen, bei denen ich mich bewerben würde.
Acceptance of interview invitation	*If the company invites me to a job interview, I will accept the invitation at once.* Original item in German: Würde mich diese Firma zu einem Vorstellungsgespräch einladen, würde ich der Einladung sofort folgen.
Willingness to sacrifice	*I would do a lot to work for this company.* Original item in German: Ich würde sehr viel dafür geben, bei dieser Firma arbeiten zu können.
Intentions to apply	
In total, what is your assessment at this moment? Original text in German: Zu welcher Beurteilung kommst Du zum jetzigen Zeitpunkt insgesamt? All items were rated on a Likert scale (1 = very unlikely, 6 = very likely).	
Variable	*Survey item*
Application intentions	*I intend to apply for a technical apprenticeship position with this organization XY.* Original item in German: Ich werde mich bei der Firma XY für einen Ausbildungsplatz als "Anlagenmechniker/-in für Sanitär-, Heizungs- und Klimatechnik", "Spengler/-in" oder "Ofen- und Luftheizungsbauer/-in" bewerben.

Table A2: Survey items underlying the independent variables

Employer and job characteristics	
How do you envision an apprenticeship at the firm XY from the crafts sector? *At the firm XY …* Original text in German: Wie stellst Du Dir eine Ausbildung in dem Handwerksbetrieb XY vor? Beim Handwerksbetrieb XY ... All items were rated on a Likert scale (1 = strongly disagree, 6 = strongly agree).	
Variable	*Survey item*
Earnings	*… I receive a high apprenticeship wage* Original item in German: … bekomme ich einen hohen Ausbildungslohn
	… I will receive a high wage even after the apprenticeship Original item in German: … bekomme ich auch nach der Ausbildung einen hohen Lohn
	… I get attractive fringe benefits (e.g., employee conditions, mobile phone, holiday allowance, …) Original item in German: … bekomme ich attraktive betriebliche Vergünstigungen (z. B. Mitarbeiterkonditionen, Handy, Urlaubsgeld, …)
Development opportunities	*… I can grow and develop myself personally* Original item in German: … kann ich mich persönlich entwickeln und entfalten
	… I have good opportunities for career advancement Original item in German: … habe ich gute Aufstiegs- bzw. Karrierechancen
	… I do have the opportunity to work abroad Original item in German: … habe ich die Möglichkeit, auch mal im Ausland zu arbeiten
	… employees regularly get further training Original item in German: ... werden die Mitarbeiter regelmäßig weitergebildet
	… I get prepared for a possible professional self-employment Original item in German: … werde ich auf eine mögliche berufliche Selbstständigkeit vorbereitet

Table A2: Survey items underlying the independent variables (continued)

Job security	*… I have a good chance to get a contract after completing the apprenticeship* Original item in German: … habe ich eine hohe Chance, nach der Ausbildung übernommen zu werden
	…is an economically successful company with good future prospects Original item in German: … handelt es sich um ein Unternehmen mit wirtschaftlichem Erfolg und guten Zukunftschancen
Working climate	*… work kind and friendly employees* Original item in German: … arbeiten nette, freundliche Mitarbeiter
	… there is a good relationship to supervisors Original item in German: … herrscht ein gutes Verhältnis zum Vorgesetzten
Working content	*… I can handle interesting, challenging work tasks* Original item in German: … kann ich interessante, herausfordernde Aufgaben erledigen
	… my work tasks are multifaceted and varied Original item in German: … ist die Arbeit vielseitig und abwechslungsreich
Working conditions	*… I can work at an attractive location (e.g., near to home, easy to reach via public transport, etc.)* Original item in German: … kann ich an einem attraktiven Standort arbeiten (z. B. Nähe zum Heimatort, gut mit öffentlichen Verkehrsmitteln erreichbar etc.)
	… I have enough spare time in addition to work Original item in German: … bleibt mir neben der Arbeit genügend Zeit für Freizeit
	… I can arrange my working hours independently (flexible working hours) Original item in German: … kann ich mir meine Arbeitszeit selbst einteilen (flexible Arbeitszeit)
	… I can work independently and self-reliant Original item in German: … kann ich selbstständig und eigenverantwortlich arbeiten
	… I have to fulfill exhausting and physically demanding work tasks Original item in German: … muss ich anstrengende und körperlich belastende Arbeiten machen

Table A2: Survey items underlying the independent variables (continued)

	… there is plenty of teamwork Original item in German: … wird viel in Teams gearbeitet

Vocational interest craft	
The following items were rated on a Likert scale (1 = I am not interested in, 5 = I am interested in). *What is your professional interest?* Original text in German: Wo liegen Deine beruflichen Interessen?	
Variable	*Survey item*
Machines/technical devices	*Working with machines and technical devices* Original item in German: Mit Maschinen oder technischen Geräten arbeiten
Analysing	*Analysing how something works* Original item in German: untersuchen, wie etwas funktioniert
Metal/Wood	*Handling metal/wood, manufacturing something with metal/wood* Original item in German: Metall/Holz bearbeiten, etwas aus Metall/Holz herstellen
Physical demand	*Fulfilling tasks which are physically exhausting* Original item in German: Arbeiten verrichten, bei denen man sich körperlich anstrengen muss
Computers	*Installing new parts in computers* Original item in German: in einen Computer neue Teile einbauen
Construction plans	*Drawing construction plans* Original item in German: Konstruktionspläne zeichnen
Electrical devices	*Producing electrical devices or systems* Original item in German: elektrische Geräte oder Anlagen bauen
Building sites	*Working on a building site* Original item in German: auf einer Baustelle arbeiten
Service tasks	*Fulfilling service tasks (cleaning, maintaining, repairing)* Original item in German: Servicearbeiten durchführen (reinigen, instandhalten, reparieren)

Table A2: Survey items underlying the independent variables (continued)

Production according plan	*Producing something according to a plan or a sketch* Original item in German: etwas nach einem Plan oder einer Skizze anfertigen
Career craft	
Is one out of your three most preferred jobs in the crafts sector? Original question in German: Zählst Du einen handwerklichen Beruf zu Deinen drei Wunschberufen? (Interviewees answer with yes/no)	
Pre-firm awareness	

Do you know this crafts firm XY even though only by name? Survey item in German: Kennst Du den Handwerksbetrieb XY, wenn auch nur dem Namen nach? (Interviewees answered with yes/no)
Additional information
Have you collected further information regarding the crafts firm XY after the recruitment activity? Survey item in German: Hast Du Dich über den Handwerksbetrieb XY, nachdem Du ihn im Rahmen der schulischen Berufsorientierung näher kennengelernt hast, noch zusätzlich anderweitig informiert? (Interviewees answered with yes/no)

Table A3: Descriptive statistics for study variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
Dependent variables:															
1. Attractiveness	2.48	1.27	1												
2. Intentions to apply	1.80	1.17	.62*	1											
Control variables:															
3. Firm size (1–4 employees)	.04	.19	-.04	-.02	1										
4. Firm size (5–9 employees)	.05	.22	-.03	.03	-.05	1									
5. Firm size (10–19 employees)	.06	.23	-.06*	-.02	-.05	-.06*	1								
6. Firm size (20–49 employees)	.48	.50	-.09*	-.06*	-.19*	-.22*	-.24*	1							
7. Firm size (50–249 employees)	.26	.44	.04	.00	-.12*	-.14*	-.15*	-.58*	1						
8. Firm size (250+ employees)	.11	.31	.18*	.10*	-.07*	-.08*	-.09*	-.33*	-.21*	1					
9. Earnings	3.45	1.24	.44*	.39*	-.06*	.01	-.07*	-.08*	.06*	.13*	1				
10. Development opportunities	3.24	1.10	.54*	.45*	-.07*	-.02	-.12*	-.07*	.07*	.15*	.75*	1			
11. Job security	3.83	1.37	.47*	.36*	-.08*	-.04	-.11*	-.06*	.06*	.18*	.70*	.78*	1		
12. Working climate	4.07	1.44	.37*	.28*	-.08*	-.01	-.09*	-.01	.05	.07*	.68*	.69*	.69*	1	
13. Working content	3.45	1.40	.47*	.40*	-.09*	-.01	-.04	-.05*	.03	.13*	.65*	.77*	.65*	.64*	1
14. Working conditions	3.56	1.06	.46*	.38*	-.10*	-.03	-.10*	.02	.04	.06*	.70*	.79*	.71*	.77*	.74*
15. Firm location	.33	.47	.02	.05	-.14*	-.16*	.29*	-.00	.16*	-.24*	.05*	.04	.07*	.08*	.04
16. Vocational interest craft	2.67	.85	.31*	.36*	-.01	.06*	-.05	-.08*	-.03	.16*	.18*	.24*	.18*	.09*	.25*
17. Career craft	.57	.50	.23*	.28*	.04	.09*	.08*	-.10*	-.11*	.17*	.10*	.12*	.06*	.03	.13*
18. Sex	.42	.49	-.18*	-.26*	-.01	-.01	.06*	.10*	-.06*	-.10*	-.04	-.05	-.03	.05	-.08*
19. School	.54	.50	-.01	.08*	.18*	.04	.23*	-.09*	-.18*	.09*	.11*	.02	-.03	.05	.04
20. Grade point average	2.51	.67	-.00	.06*	.05	.11*	.01	-.07*	.06*	-.09*	.07*	-.00	-.03	.02	-.01
21. Pre-firm awareness	.58	.49	.16*	.13*	-.10*	-.15*	.03	.07*	-.13*	.21*	.16*	.18*	.20*	.18*	.20*
22. Additional information	.14	.35	.28*	.29*	.00	.07*	.06*	-.06*	.04	.07*	.23*	.25*	.19*	.17*	.22*
23. Distance to firm (≤15 min)	.36	.48	.04	.01	-.06*	-.03	.06*	.12*	-.21*	.10*	.06*	.04	.04	.04	.03
24. Distance to firm (≤30 min)	.33	.47	.02	.04	.02	-.00	-.03	-.08*	.11*	-.01	.03	.05*	.09*	.07*	.08*
25. Distance to firm (≤45 min)	.17	.37	-.03	-.03	.01	.01	-.01	-.00	.05	-.07*	-.09*	-.07*	-.07*	-.07*	-.09*
26. Distance to firm (≤1 hour)	.07	.25	-.02	-.01	-.02	.04	-.07*	.01	.03	-.02	-.03	-.05	-.06*	-.03	-.04
27. Distance to firm (≤1.5 hours)	.04	.19	-.04	-.06*	.00	-.01	-.05	.01	.04	-.02	-.01	-.01	-.05	-.03	-.03
28. Distance to firm (>1.5 hours)	.04	.19	-.01	-.01	.12*	.02	.08*	-.14*	.09*	-.04	-.01	-.02	-.04	-.06*	-.03

Table A3: Descriptive statistics for study variables (continued)

	Variable	Mean	SD	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
14.	Working conditions	3.56	1.06	1														
15.	Firm location	.33	.47	.09*	1													
16.	Vocational interest craft	2.67	.85	.20*	-.09*	1												
17.	Career craft	.57	.50	.09*	-.12*	.53*	1											
18.	Sex	.42	.49	-.03	.07*	-.58*	-.36*	1										
19.	School	.54	.50	-.00	-.12*	.02	.19*	.10*	1									
20.	Grade point average	2.51	.67	-.02	.03	.02	.10*	-.07*	.16*	1								
21.	Pre-firm awareness	.58	.49	.20*	-.12*	.16*	.20*	-.08*	.17*	-.08*	1							
22.	Additional information	.14	.35	.23*	-.05*	.15*	.12*	-.09*	.05	.01	.12*	1						
23.	Distance to firm (≤15 min)	.36	.48	.07*	-.02	.07*	.12*	-.02	.25*	-.02	.22*	.00	1					
24.	Distance to firm (≤30 min)	.33	.47	.06*	.01	-.02	-.02	.04	-.10*	.01	-.03	-.02	-.53*	1				
25.	Distance to firm (≤45 min)	.17	.37	-.08*	.06*	-.07*	-.10*	.02	-.18*	-.05	-.12*	.05*	-.34*	-.32*	1			
26.	Distance to firm (≤1 hour)	.07	.25	-.09*	-.01	-.03	-.05	.02	-.03	.06*	-.09*	-.06*	-.20*	-.19*	-.12*	1		
27.	Distance to firm (≤1.5 hours)	.04	.19	-.02	-.03	-.01	-.03	.00	-.06*	.01	-.08*	-.06*	-.15*	-.14*	-.09*	-.05*	1	
28.	Distance to firm (>1.5 hours)	.04	.19	-.05	-.04	.06*	.03	-09*	.06*	.03	-.08	.07*	-.15*	-.14*	-.09*	-.05*	-.04	1

Means, standard deviations, and pairwise correlation coefficients for all variables
Time-series cross-sectional data with site visit: n = 249, firm presentation: n = 189, control group: n = 279
* p<.0