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In this paper, I draw on research from the literatures on marketing and recruitment to identify how recruitment practices and company product awareness are related to job seekers' application behaviors through three aspects of job seekers' employer knowledge. Based on results from a within-subjects design with data from 123 recruiting companies and 456 student job seekers, my findings suggested the relationships between recruitment strategies and application intentions and decisions are moderated by product awareness. Specifically, low-information recruitment practices are significantly and positively related to application behaviors through employer familiarity and employer reputation when product awareness is low rather than high. In contrast, high-information recruitment practices are related to job seekers' application behaviors through employer reputation and job information when product awareness is high rather than low.

Keywords
ILR, Cornell University, human resource, labor, market, recruitment, practices, company product, student job seeker, employer

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The Interactive Effects of Recruitment Practices and Product Awareness on Job Seekers' Employer Knowledge and Application Behaviors

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The Interactive Effects of Recruitment Practices and Product Awareness on Job Seekers' Employer Knowledge and Application Behaviors

Abstract

In this paper, I draw on research from the literatures on marketing and recruitment to identify how recruitment practices and company product awareness are related to job seekers' application behaviors through three aspects of job seekers' employer knowledge. Based on results from a within-subjects design with data from 123 recruiting companies and 456 student job seekers, my findings suggested the relationships between recruitment strategies and application intentions and decisions are moderated by product awareness. Specifically, low-information recruitment practices are significantly and positively related to application behaviors through employer familiarity and employer reputation when product awareness is low rather than high. In contrast, high-information recruitment practices are related to job seekers' application behaviors through employer reputation and job information when product awareness is high rather than low.

Projected shortages for top talent has increased practitioner and academic interests in understanding how companies can focus their recruitment efforts to separate themselves from labor market competitors (Taylor & Collins, 2000). It is particularly important for companies to influence job seekers' application intentions and decisions, because firms cannot select from or continue to recruit job seekers who don't take this first step (Barber, 1998; Carlson, Connerley, & Mecham, 2002). While there is a limited amount of research that informs academics and practitioners on what drives application intentions and decisions (Barber, 1998), researchers have recently drawn on marketing brand equity research to identify more complete models of job seeker application behaviors (e.g., Cable & Turban, 2001; Collins & Stevens, 2002; Lievens & Highhouse, 2003).

Specifically, Cable and Turban (2001) argued that three dimensions of job seeker employer knowledge – the beliefs held by job seekers about the recruiting company as an employer – affect application and job choice decisions. Further, recruiters can influence application outcomes through an array of recruitment practices that range in strategy from low to high in terms of information and search effort required on the part of job seekers (Collins & Han, 2004), and different early recruitment practices seem to affect different dimensions of employer knowledge (Cable & Yu, 2005; Collins & Stevens, 2002). Job seekers, however, may begin to develop employer knowledge prior to the influence of recruitment practices through exposure non-recruitment sources of information (Barber, 1998). For example, product awareness, job seekers' familiarity with the company's products or services, may increase job seekers' familiarity with the organization as an employer and create favorable perceptions of the company's reputation as an employer (Barber, 1998; Cable & Turban, 2001; Collins & Han, 2004). Researchers have rarely examined the combined effects of recruitment and non-

recruitment sources on employer knowledge; therefore, it is unclear if some recruitment practices are effective for all companies or if the effectiveness of recruitment practices depend on the degree to which job seekers have already developed employer knowledge through exposure to non-recruitment sources of information such as product awareness (Cable & Turban, 2001; Rynes & Barber, 1990; Rynes & Cable, 2003).

The main goal of this research was to explore the interactions of recruitment practice strategies and product awareness to better understand job seeker application behaviors. I address this question by first discussing three aspects of employer knowledge identified by Cable and Turban (2001): employer familiarity, employer reputation, and employer image. Second, drawing on theory and findings from marketing and recruitment, I discuss how product awareness is related to job seekers' employer knowledge. Finally, I develop and test hypotheses regarding how the relationships between low- and high-information recruitment practices and employer knowledge and subsequent application behaviors will be moderated by product awareness (see Figure 1 for model). I test the proposed relationships with data collected from 123 recruiting organizations and 456 student job seekers.

Theoretical Background and Hypotheses

Brand Equity Theory and Job Seeker Employer Knowledge

Previous research on job search and recruitment has suggested that job seekers develop and rely on a number of different beliefs when making application decisions (Barber, 1998; Rynes, 1991). In order to theoretically categorize these beliefs in an inclusive and comprehensive manner, Cable and Turban (2001) drew on consumer-based brand equity theory to identify three dimensions of employer knowledge. The first dimension of employer knowledge is employer familiarity, defined as job seekers' awareness of or ability to identify a

company as a potential employer (Cable & Turban, 2001). Employer familiarity affects application behaviors because job seekers interpret these beliefs as a signal of the legitimacy of a company as an employer and see familiar employers in a more positive light than they do unfamiliar employers (Gatewood, Gowan, & Lautenschlager, 1993).

The second dimension of employer knowledge that affects application behaviors is employer reputation, defined as job seekers' beliefs regarding how other individuals affectively view the company as an employer (Cable & Turban, 2001). There is empirical evidence that job seekers are more attracted to firms with strong positive reputations than firms with either no or negative reputations (Cable & Turban, 2003). Importantly, in the early stages of job search, college students are heavily influenced by the opinions of friends and classmates (Kilduff, 1990). Employer image, defined as job seekers' beliefs regarding attributes and associations connected to the company as an employer, is the third dimension of employer knowledge (Cable & Turban, 2001). Research findings in the recruitment literature suggest that job seeker actions are influenced by beliefs regarding the company as a whole, the attributes of the job itself, and characteristics of people within the company (see Barber, 1998 or Rynes, 1991 for a review). I chose to focus on job information, defined as job seekers' beliefs regarding important attributes of a specific job, because these beliefs have strong effects on application intentions and decisions (Collins & Stevens, 2002; Harris & Fink, 1987).

Influencing Job Seeker's Employer Knowledge and Application Behaviors

Because job seekers' employer knowledge affects application behaviors, it is critical for recruiters to understand how to systematically influence these beliefs. Job seekers may develop employer knowledge through exposure to recruitment practices or through non-recruitment sources of information such as product awareness (Barber, 1998; Cable & Turban, 2001).

Because job seekers may not be blank slates when they are exposed to recruitment practices, there is a question as to whether different recruitment strategies may be more or less successful depending on the extent to which job seekers have already developed employer knowledge through exposure to the company's products, services, and advertising (Rynes & Cable, 2003).

Product Awareness and Employer Knowledge. Product awareness, which I define as the extent to which job seekers are likely to be familiar with the company's products or services either through direct exposure or advertising efforts, plays an important role in influencing job seekers' application behaviors (Cable & Turban, 2001). For example, job seekers are more likely to be familiar with a company as an employer, if that company has high visibility through well known products or services (Barber, 1998). Job seekers may also begin to develop affective beliefs about the company as an employer through exposure to the company's product advertising (Cable et al., 2000) or through direct exposure to the company's products or services (Barber, 1998). Specifically, product awareness may act to signal the quality and viability of the company as an employer, increasing job seekers' perceptions of employer reputation (Cable & Turban, 2001; Collins & Han, 2004). However, drawing on marketing research on the elaboration likelihood model, awareness of a company's product or service is unlikely to provide enough information about work conditions to directly affect job seekers' beliefs regarding job information (Collins & Han, 2004; MacInnis & Jaworksi, 1999).

Low-information recruitment practices and application behaviors. One strategy that companies can follow to influence job seekers' application behaviors is to implement low-information recruitment practices such as general recruitment advertisements (e.g., recruiting posters, banner ads) and sponsorship activities (e.g., donating money for naming rights, sponsoring campus events) that provide general positive cues and signals regarding the company

as an employer (Collins & Han, 2004). Following the arguments in marketing (e.g., MacInnis & Jaworski, 1989; Petty & Cacioppo, 1986), job seekers will develop employer familiarity and positive beliefs regarding employer reputation through mere exposure to the positive cues contained in the photos, slogans, and positive associations contained in low-information recruitment practices. Because the positive cues and signals in low-information practices can be processed either subconsciously or with little effort, this strategy is an important form of influence for unknown companies (Chandy, Tellis, MacInnis, & Thaivanich, 2001). As with company brand visibility, it is unlikely that low-information recruitment practices contain enough detailed information to directly influence job information beliefs (Collins & Han, 2004).

As noted above, employer familiarity and employer reputation are essential factors that increase job seekers' motivation to apply for jobs or seek out additional information about a company, and product awareness is one of first sources of information that job seekers may draw on to develop these beliefs (Cable & Turban, 2001). Companies lacking product awareness in the minds of job seekers must find alternative ways to create employer familiarity and reputation. Because low-information practices also affect job seekers' perceptions of employer familiarity and reputation by exposing job seekers to positive cues and signals about the company, they may serve as a substitute for product awareness (Collins & Han, 2004). In contrast, companies with high product awareness in the minds of job seekers may not gain from implementing low-information recruitment practices. Because they influence job seekers in a redundant manner, low-information recruitment practices are unlikely to influence job seekers who have already developed employer familiarity and employer reputation beliefs through product awareness (Cable & Turban, 2001). Based on this logic, I predict that low-information practices will be

positively related to job seekers' application behaviors for organizations with low product awareness, but not for companies with high product or service awareness.

Hypothesis 1: Low-information recruitment practices (general recruitment ads and sponsorship) are significantly related to job seekers' application behaviors through employer familiarity and employer reputation when company product awareness is low rather than high.

High-information recruitment practices and application behaviors. Companies can also follow a high-information recruitment strategy in which they attempt to influence job seekers' behaviors through recruitment practices that contain detailed specifications and arguments regarding the job and company (Collins & Han, 2004). For example, companies communicate positive details about salary, growth opportunities, company culture, etc. through detailed recruitment ads (e.g., job postings, recruitment brochures) and employee endorsements (e.g., company executives, university alumni or interns sharing their experiences with students during special events on campus). High-information practices affect individuals by creating positive affect towards the company and as a signal of the presence of other important attributes that were not included in the advertisement (Chandy et al., 2001; MacInnis & Jaworski, 1989). Job seekers interpret the positive details contained in high-information recruitment practices to develop a positive impression of employer reputation (Cable & Turban, 2001) and rely on the detailed information on some attributes as a signal of the presence of other important job information (Barber & Roehling, 1993; Collins & Han, 2004).

Importantly, high-information practices only influence beliefs when individuals have the motivation to actively seek out and process the detailed information and arguments included in the practice (MacInnis & Jaworski, 1989; Petty & Cacioppo, 1986). Without initial employer

familiarity and interest in the company as an employer, created through product awareness, job seekers are unlikely to seek out or process the detailed information contained in high-information recruitment practices (Collins & Han, 2004). Besides creating the motivation to seek out and process high-information recruitment practices, product awareness also increases the effectiveness of high-information practices by creating an initial memory node on which job seekers can store additional knowledge and beliefs regarding attributes of the job and work conditions conveyed through detailed recruitment ads and employee endorsements (Cable & Turban, 2001; Keller, 1993). High-information recruitment practices, however, are unlikely to have a significant influence on familiarity, because job seekers will have already developed familiarity with the company through the product awareness that attracted them to the high-information recruitment practices in the first place. Therefore, I predict that high-information practices will be significantly related to application behaviors for organizations that have high product awareness, but not for those firms that are low on product awareness.

Hypothesis 2: High-information recruitment practices (detailed recruitment ads and employee endorsements) are significantly related to job seekers' application behaviors through employer reputation and job information when company product awareness is high rather than low.

Methods

Study Design and Samples

In order to reduce misspecifications, researchers should design their study to match the complexities of the decision event being modeled (Hsee, Loewenstein, Blount, & Bazerman, 1999). During the phase of applicant attraction, student job seekers are exposed to the recruitment practices of many organizations and have many choices in terms of application

decisions (Barber, 1998); but, career services offices often limit the number of companies to which students can apply in order to create fair chances for all students. Within-subjects designs are the best technique to evaluate decision-making events in which individuals must evaluate and choose between multiple options (Olian, 1986). Therefore, following Collins and Stevens (2002), I modeled the complexity of college student application behaviors by using a within-subjects design in which I asked student participants to respond to questions regarding product awareness, employer knowledge and application behaviors for five companies that were actively recruiting students from the respondent's school and field of study.

I carried out the study at four schools within a large Northeastern university: Arts and Sciences, Business, Engineering, and Industrial and Labor Relations. To reduce the potential of common method bias, I collected data from multiple sources and at multiple points in time. First, at the start of the semester, I collected data regarding organizational recruitment practices from staffing managers of firms scheduled to recruit on campus during the Fall semester. Second, during the fourth week of the semester, I collected data on product awareness, employer knowledge, and application intentions from students who were searching for jobs during the fall semester. To reduce the likelihood that participants developed employer knowledge through previous work experience, I asked students to self-identify if they, relatives, or friends had work experience with any of the companies on their survey. Those who self-identified were given a new survey that listed different companies. Finally, I collected data on application decisions from student participants two months after they completed the initial survey.

Company Sample. The university career services office provided me with a list of 253 companies that had registered to recruit on campus during the 2002-2003 academic year. One week prior to the start of the Fall semester, I sent a survey regarding recruitment practices to the

recruiter or staffing manager listed as the company contact for this university. The final company sample consisted of 123 companies for a response rate of 49%. Data collected through publicly available business databases showed that participating firms did not differ from non-participating firms in terms of number of employees ($t_{253} = 1.22$, ns) or annual sales ($t_{253} = 1.14$, ns), providing some evidence that the companies that responded were representative of those that recruited on campus.

Student Sample. To recruit students who were actively searching for jobs, I advertised a $20 cash award for participation in a study through e-mails to students registered with career services and posted advertisements on job placement boards. I only included responses from students who were currently searching for full-time jobs. Student participants completed the survey during the fourth and fifth weeks of the semester before participating companies had begun to interview on campus, thus eliminating potential exposure to later recruitment practices. My final sample of 456 undergraduate and masters level students (response rate = 28%) was ethnically diverse (49.1% white, 32.4% Asian, 11.4% African-American, 5.3% Hispanic/Latino, and 1.8% other) with an average GPA of 3.27 and 1.8 years of full time work experience. I found no differences between participating students and the population of students registered with career services in terms of GPA ($t = 1.17$, ns, $n = 1642$) or work experience ($t = 1.41$, ns, $n = 1642$), suggesting that the sample was representative.

Measures

Recruitment practices. Following Collins and Han (2004), I identified two low-information recruitment practices (general recruitment advertisements and sponsorship) and two high-information recruitment practices (detailed recruitment advertisements and employee endorsements). I developed measures of these early recruitment practices (see Appendix A for

items) from previous research that has examined the effects of multiple early recruitment practices (e.g., Collins & Han, 2004; Collins & Stevens, 2002). I asked company representatives to rate each question on a scale from 1 (strongly disagree) to 5 (strongly agree).

I tested for construct distinctiveness of the four recruitment practice variables by using confirmatory factor analysis. Overall, the data showed reasonably good fit to a four factor model of recruitment practices (general recruitment ads, sponsorship, detailed recruitment ads, and employee endorsements): model Chi-square = 174.12, df = 71, CFI = .90; RMSEA = .08. In addition, Chi-square difference tests indicated that a four-factor model was a better fit to the data than (1) a one-factor model of a single block of recruitment practices (χ^2 Difference = 184.65, df = 6, $p < .01$) or (2) a two-factor model that combined the two low-information practices together and the two high-information practices together (χ^2 Difference = 54.79, df = 5, $p < .01$). Reliability analyses indicated reasonable item convergence: general recruitment advertisements, $\alpha = .78$; sponsorship activities, $\alpha = .75$; detailed recruitment advertisements $\alpha = .79$; and employee endorsements, $\alpha = .78$. I formed four measures of recruitment practices by averaging the ratings across the items associated with each practice.

Product Awareness. I defined product awareness as the extent to which job seekers in general are familiar with a company's products or services. Based on previous measures from marketing (e.g., Yoo, Donthu, & Lee, 2000), I developed a three-item scale of product awareness (see Appendix A for specific items). I asked student participants to rate each item on a scale of 1 (strongly disagree) to 5 (strongly agree) for each of the five companies that they evaluated, and the scale showed good reliability (α=.91). To create the measure of product awareness for each company, I averaged the responses across all student participants that evaluated the company. On average, 17.4 students rated their familiarity with the products or services of each company

(the number of raters per company ranged from 15 to 25 because the companies were randomly assigned to student surveys). To make sure that it was appropriate to aggregate measures across respondents, I examined ICCs to determine if there was more agreement in perceptions of product awareness within companies compared to agreement across companies. I found that the ICCs for the aggregated index [ICC(1) = .31, ICC(2) = .77] exceeded levels suggested by Bliese (1998); therefore, I averaged responses across knowledge workers within each firm to create an aggregated measure.

In order to provide some evidence of the validity of my measure of product awareness, I first correlated this measure with a measure of the extent to which recruiters believed that the company has visible product brands. Based on a scale of 1= strongly disagree to 5 = strongly agree, company participants responded to four items, including "People can quickly recognize this company among other brands" and "In general, most people know the brand of this company." I found that my measure of product awareness collected from student participants was correlated at .77 with my measure of recruiters' perceptions of product brand visibility, providing some evidence of the validity of my measure.

There is likely to be a correlation between product awareness and employer familiarity, and I collected measures of these variables from the same source (i.e., student surveys); therefore, I tested for the distinctiveness of these constructs by using confirmatory factor analysis. Based on 2280 observations (456 students with five company responses), I found that the data showed reasonably good fit to a two factor model that included three items for product awareness and four items for employer familiarity: model Chi-square = 686.51, df = 13, CFI = .93; RMSEA = .06. In addition, the two-factor model appeared to be a better fit to the data than a one-factor model of a single block of product awareness and employer familiarity: model Chi-

square = 3,672.41, df = 14, $p < .01$; CFI = .71; RMSEA = .34. Thus, while product awareness is related to job seekers' employer familiarity, it appears that these are distinct constructs.

Employer Knowledge. I collected data on the three dimensions of employer knowledge (employer familiarity, employer reputation, and job information) from surveys of student job seekers (see Appendix B for specific items. Respondents rated items for each measure on a scale from 1 (strongly disagree) to 5 (strongly agree). Unlike product awareness, I measured each of the employer knowledge variables at the individual-level of analysis; they were not aggregated across participants. Following Cable and Turban (2001), I defined employer familiarity as job seekers' awareness of or ability to recognize a company as a potential employer. I measured employer familiarity with a four-item scale adapted from Yoo et al. (2000). I defined employer reputation as seekers' perceptions of the extent to which relevant others hold the employer company in high regard, and I developed a four-item scale measuring the extent to which respondents believed that other students and friends held the company in high regard. Finally, I measured job information, defined as job seekers' perceptions regarding attributes of a particular job at a company, with an eight-item scale of job attributes adapted from Collins and Stevens (2002). Although job seekers might not have specific knowledge about each of the eight attributes, they are likely to use their knowledge of the presence or absence of some attributes as a signal of the likelihood of the presence of the remaining attributes. Each of the scales showed good reliability (employer familiarity α=.92; employer reputation α=.89; job information α=.90).

Intentions to Apply. I measured job seekers' intentions to apply with two questions adapted from Taylor and Bergmann (1987): "If I saw a job opening for this organization, I would apply for it" and "If I were searching for a job, I would apply to this organization." I asked

student participants to respond to the questions using a five-point scale (1= strongly disagree; 5 = strongly agree). The scale showed good reliability (α=.91).

Decisions to Apply. I measured student application decisions through a follow-up email sent to all the student participants who completed the initial survey. I sent the email after all company interview schedules were completed to ensure that students had the opportunity to apply to all of the participating companies. Based on a scale of 0 = no and 1 = yes, I asked participants to identify if they applied to each of the five companies listed in the email – the five companies from the participants' initial survey were listed on separate lines with response spaces for each. A total of 263 students responded to the follow-up email for a participation rate of 58%. Respondents to the email did not differ from non-respondents across multiple measures collected from the first survey, including employer familiarity (t_{456} = 1.02, ns), employer reputation (t_{456} = .65, ns), job information (t_{456} = .72, ns), or application intentions (t_{456} = .88, ns).

Results

I arranged the matched data from companies and students into a panel data set with repeated observations for each student respondent. Fixed effects regression is the most appropriate technique to analyze panel data because it enabled me to control for individual effects, the natural covariation in an individual's responses across companies resulting from the respondent answering the same questions across five companies in the same survey (Greene, 1997). By including a coded variable for each individual respondent in the data, I could use fixed effects regressions to partial out the individual effects. I did not report the individual effects in the tables as these are artifacts of the study design; instead, the R^2 values only include the variance explained by the variables of interest. For decisions to apply, I used within-subjects logistic regressions because I measured decision to apply as a dichotomous variable. Finally,

when calculating interaction terms, I centered the variables before multiplying them in order to reduce multicollinearity.

In my hypotheses, I predicted that the interactions of product awareness and recruitment practices are related to application behaviors through employer knowledge. Therefore, I followed the three-step procedure outlined by Baron and Kenny (1986) to test for mediated moderation. In the first step, I regressed product awareness, recruitment practices, and their interaction terms on application behaviors. In the second step, I regressed product awareness, recruitment practices, and their interaction terms on the three dimensions of employer knowledge. Finally, I examined if the significant relationships between the interaction terms and application intentions and decisions were reduced to non-significance when the employer knowledge variables are added to the regression equations. In each regression, I also included a measure of firm size to control for differences in product awareness that may exist between large and small companies, measures of gpa and degree level (undergraduate versus graduate) to control for any systematic differences in beliefs or application behaviors across students, and dummy codes for schools to control for any systematic differences in recruitment practices across the four schools.

In the first hypothesis, I predicted that low-information recruitment practices would be significantly related to job seekers' application behaviors through employer familiarity and reputation when product awareness was low rather than high. In the first step of the procedure identified above, I found that the interactions between general recruitment ads and product awareness and sponsorship and product awareness were significantly related to application intentions (see Model 3, Table 4) and decisions (see Model 3, Table 5). In the second step (see Model 3 in Tables 2 and 3), I found that the interaction of general recruitment ads and product

awareness was significantly related to employer familiarity ($\beta = -.39$, $p < .01$), and the interaction of sponsorship and product awareness was significantly related to employer familiarity ($\beta = -.42$, $p < .01$) and reputation ($\beta = -.38$, $p < .01$). Further, graphs of these significant interactions showed that the interactions were in the direction predicted. For example, as shown in Figure 1, higher scores on general recruitment ads were related to higher levels of employer familiarity for companies with low rather than high product awareness.

In the final step of the procedure (see Model 4, Tables 4 and 5), I found that the interactions between low-information recruitment practices and product awareness were no longer significantly related to either intentions or decisions to apply, and employer familiarity and reputation were significantly related to application intentions and decisions. Thus, I found strong support for Hypothesis 1 – it appears that low-information recruitment practices (i.e., general recruitment ads and sponsorship) are significantly related to student application behaviors through employer familiarity and employer reputation for companies with low product awareness. Further, low-information recruitment practices don't appear to be significantly related to job seekers' application behaviors for companies with high product awareness.

In the second hypothesis, I predicted that high-information recruitment practices will be significantly related to application behaviors through employer reputation and job information when product awareness is high rather than low. In the first step of the three step procedure, I found that the interactions of detailed recruitment ads and product awareness and employee endorsements and product awareness were significantly related to application intentions and decisions (see Model 3, Tables 4 and 5). In the second step (see Models 3 and 6, Table 3), I found that the interaction of detailed recruitment ads and product awareness was significantly related to employer reputation ($\beta = .29$, $p < .01$) and job information ($\beta = .41$, $p < .01$), and the

interaction of employee endorsements and product awareness was significantly related to reputation ($\beta = .38$, $p < .01$) and job information ($\beta = .39$, $p < .01$). Further, graphs of the interactions suggested that the interactions were in the predicted direction. For example (see Figure 2), higher scores on employee endorsements were related to higher levels of perceived job information when product awareness was high rather than low.

In the third step, I found that the interactions of high-information recruitment practices and product awareness were no longer significantly related to application behaviors when employer reputation and job information were added to the regression equations (see Model 4, Tables 4 and 5). Both employer reputation and job information were significantly related to both application intentions and application decisions. Thus, my results provide evidence to support Hypothesis 2. I found that high-information recruitment practices (i.e., detailed recruitment ads and employee endorsements) were positively related to application behaviors through employer reputation and job information for companies that have high product awareness and not for companies with low product awareness.

Discussion

My results add to the literature on recruitment and job seekers' application behaviors in several important ways. First, this is the only study that I could find that simultaneously examined the effects of all three dimensions of employer knowledge identified by Cable and Turban (2001). Importantly, I found that employer familiarity, reputation, and image (i.e., job information) each have significant and independent direct relationships with application intentions and decisions. Future research should continue to explore the combined effects of these and other dimensions of employer knowledge (e.g., company and people information

aspects of image) and examine how these dimensions affect one another in order to fully understand how job seekers make application decisions.

Second, my findings provide further evidence to the limited body of empirical research which suggests that companies may be able to systematically affect job seekers' perceptions of employer knowledge and subsequent application behaviors through recruitment practices (e.g., Cable & Yu, In Press; Collins & Stevens, 2002). Importantly, as suggested by Cable and Turban (2001) and Collins and Han (2004), my findings suggest that recruiters must be careful to select the recruitment practice strategy that best matches the extent to which job seekers are likely to be aware of their company based on its products or services. Further, researchers may only find the true relationships between recruitment practices and application behaviors when they look at the effects of these practices in the context of companies' non-recruitment activities. As shown in the regression tables, the overall explained variances in employer knowledge and application behaviors were small for the regression equations that examined the direct effects of recruitment practices and product awareness. In contrast, the regressions with the interactions between product awareness and recruitment practices explained a relatively large proportion of the variances in employer knowledge (R^2 values range from .37 to .44), application intentions (R^2 = .29), and application decisions (R^2 = .22).

As predicted, I found that the largest relationships between low-information recruitment practices and application behaviors occurred under conditions of low company product awareness. As suggested by theory, this is likely because low-information recruitment practices and product awareness act as substitutes to create initial employer familiarity and positive employer reputation beliefs. Also as predicted, I found that the largest relationships between high-information recruitment practices and application behaviors existed when product

awareness was high rather than low. As suggested by theory, this is likely because product awareness creates the initial employer familiarity and interest in the company needed to motivate job seekers' to seek out and process high-information recruitment practices. Further, the employer familiarity created by product awareness serves as the anchor memory node on which job seekers can store beliefs about job attributes created by processing the high-information practice. Companies are unlikely to benefit from high-information recruitment practices unless they have done something to create this initial employer familiarity.

To further test this idea, I conducted several post hoc tests in which I split the sample and looked at the interaction of low- and high-information practices for companies with low product awareness. This was a particularly interesting test because I did not find a clear pattern in companies' simultaneous implementation of both low- and high-information practices. I found several significant interactions between low- and high-information recruitment practices, and graphs of these interactions suggested that high-information recruitment practices were significantly related to employer reputation and job information when product awareness was low if the company scored high on one of the two low-information recruitment practices. It is likely that, by creating initial employer familiarity and positive reputation beliefs, low-information recruitment practices act as a substitute for product awareness and help to increase the effectiveness of high-information recruitment practices for companies with low product awareness. Because I conducted these tests post hoc with a split sample of the data and did not control for other non-recruitment sources that may affect initial employer familiarity and reputation, the conclusions drawn from these post hoc tests are tentative. Future studies are needed to examine the moderating effects of other organizational factors (e.g., company reputation as a product or service provider, extent of company advertising) and different

combinations of recruitment practices to determine the optimal combinations of practices to affect job seekers' beliefs and actions.

Despite the strength of my findings, my study has several limitations that constrain the generalizability and interpretation of the findings. First, I collected data on employer knowledge and application behaviors from students at a single university who were currently searching for jobs. My sample included students from a wide array of degree programs (e.g., engineering, business, arts and sciences), so the findings may generalize to a variety of student job seekers. However, future research should examine these relationships with other types of job seekers, particularly the elusive set of individuals who are employed and not actively searching for a job. Second, company surveys were completed by a single respondent, and the accuracy of that person's responses was hard to verify. This issue may be mitigated to a great extent because the company representative (either a recruiter or staffing manager) was directly responsible for recruitment at the university where the study was conducted, and they were responding about a specific set of practices for a specific set of individuals. Further, overestimation of the use of certain recruitment practices should lead to range restriction in the independent variables, decreasing the chance of finding significant results, providing a very conservative test of my hypotheses. Future studies should use multiple respondents or data from an additional source (e.g., career services) to verify the accuracy of responses.

Because I studied recruitment practices during the first phase of recruitment when firms were likely to convey only positive information, I was unable to examine if exposure to high-information recruitment practices that convey detailed negative information was negatively related to job seekers' employer knowledge. Further, I did not control for individuals' valences regarding job attributes. Thus, I was not able to examine if job seekers may perceive companies

more negatively after processing detailed information that does not match with their valences. These issues may not be a considerable concern in the first phase of recruitment when companies almost exclusively convey positive, desirable information through high-information recruitment practices. Future research should, however, examine this issue more fully in later stages of the recruitment process when applicants are likely to be exposed to recruitment practices that that include realistic previews of negative aspects of the job or company.

Similarly, the companies that were included in my sample all seemed to have products or services that had generally positive reputations. This is particularly noteworthy because it is likely that job seekers will not be motivated to seek out and process or will discount detailed information contained in high-information recruitment practices implemented by companies that have a negative corporate reputation or image (Cable & Turban, 2001; Collins & Han, 2004). However, recent research in marketing suggests that negative information about one aspect of a company's product or services might not always have negative spillover on other beliefs (Ahluwalia, Unnava, & Burnkrant, 2001). Therefore, future research is needed to explore if job seekers discount or ignore high-information recruitment practices implemented by companies with negative or unattractive products or services that are well-known to job seekers. Future recruitment research should also examine if there are early recruitment practices that companies can use to overcome negative product awareness or general negative perceptions of the company as a product or service provider.

Finally, the theories that I used to develop my hypotheses suggested that recruitment practices and product awareness affect job knowledge through several psychology-based factors, but I was unable to measure or examine these intervening psychological processes. For example, I argued that low-information practices and product awareness require lower levels of cognitive

processing, and they are unlikely to provide enough rich information about jobs or the company for job seekers to develop beliefs about job information. However, I didn't measure the extent of cognitive processing that these sources of information require or the amount of actual detailed information that they contained regarding jobs or the company. I also argued that high-information recruitment practices contain more detailed information, and job seekers' must have a higher level of motivation to seek out and process the information that they contain. Again, I didn't measure either the extent to which the high-information recruitment practices contained more detailed information or if job seekers needed to exert more effort or required more motivation to seek out and process these practices. While my results do seem to support the theoretical arguments that I made, future research is needed to explicitly examine these psychology-based processes and factors. For example, lab research may be used to explicitly manipulate the level of information contained in different recruitment ads to determine the level of motivation and cognitive processing that they require and the subsequent dimensions of employer knowledge that they affect.

CONCLUSIONS

Overall, I found that companies' early recruitment practices are significantly related to three dimensions of employer knowledge which, in turn, are significantly related to application intentions and decisions. Recruiters, however, must carefully consider the recruitment practice strategy that they employ, because different practices may have varying levels of success depending on the level of company product awareness. Given these promising results, an important subject for future research is exploring these relationships at later stages (e.g., decisions to stay in the process or accepting job offers). In addition, future research should

examine the immediate consequences of employer knowledge on organizational recruitment outcomes or on long-term post-hire outcomes (e.g., new-hire performance and turnover).

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Table 1
Descriptive Statistics, Correlations, and Scale Reliabilities

Measures	mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12
1. Product awareness	2.98	1.17	(.91)											
2. General recruitment ads	3.15	.97	.28**	(.78)										
3. Sponsorship	2.12	1.02	.29**	.51**	(.75)									
4. Detailed recruitment ads	3.74	.89	.22**	.33**	.31**	(.79)								
5. Employee endorsements	3.89	1.00	.24**	.34**	.37**	.42**	(.78)							
6. Employer familiarity	2.41	1.13	.54**	.29**	.27**	.12**	.09	(.92)						
7. Employer reputation	3.34	.98	.28**	.08	.15**	.11**	.25**	.47**	(.89)					
8. Job information	3.23	.85	.19**	.06*	.04	.29**	.33**	.31**	.51**	(.90)				
9. Intentions to apply	3.16	1.12	.16**	.10**	.08*	.09*	.12**	.32**	.46**	.51**	(.91)			
10. Decision to apply	.35	.48	.13**	.11**	.09*	.10*	.14**	.24**	.35**	.39**	.48**	----		
11. Number of employees	21516	19922	.23**	-.02	.10**	.06*	.16**	.22**	.17**	.05	.06*	.01	----	
12. Degree Level	1.28	.45	.09*	-.02	-.02	-.03	-.06*	-.02	-.03	-.03	.03	.02	-.09*	----
13. GPA	3.32	.51	-.02	.01	.01	.04	.02	-.01	-.04	-.02	-.02	.01	.00	.24**

n = 2280 for all variables except decision to apply where n = 1315
* p < .05
** p < .01
Cronbach alpha appear on the diagonal in parentheses

Table 2

Regressions Predicting Job-Seekers' Employer Familiarity

Variable	Model 1	Model 2	Model 3
Log Number of employees	.27**	.05	.08
Degree level	.24**	.20**	.18*
GPA	.14	.11	.08
School control 1	.05	-.02	-.05
School control 2	.10	.06	.05
School control 3	-.04	-.04	-.02
Product awareness		.48**	.29*
General recruitment ads		.18*	.06
Sponsorship		.10	-.13
Detailed recruitment ads		.01	.07
Employee endorsements		-.09	-.14
Product awareness * general recruitment ads			-.39**
Product awareness * sponsorship			-.42**
Product awareness * detailed recruitment ads			.03
Product awareness * employee endorsements			.11
Total R^2	.08	.31	.44
Change in R^2	.08	.23	.13
F-change	3.12**	18.22**	11.29**

n = 456 for within subjects regression, total observations = 2280
Individual effects are not shown or included in the model R^2
* $p < .05$
** $p < .01$

Table 3

Regressions Predicting Employer Reputation and Job Knowledge

Variable	Model 1 Employer Reputation	Model 2 Employer Reputation	Model 3 Employer Reputation	Model 4 Job Knowledge	Model 5 Job Knowledge	Model 6 Job Knowledge
Log Number of employees	.22**	.04	-.02	.11	.08	.01
Degree level	.06	.05	.01	.04	.09	.02
GPA	.08	-.02	.07	-.01	.01	-.07
School control 1	.06	.06	.02	.09	.06	.06
School control 2	.02	.02	-.05	.03	.04	.07
School control 3	.12	.07	.09	.07	-.02	.04
Product awareness		.28**	.12		.13	-.05
General recruitment ads		-.04	-.04		-.03	.01
Sponsorship		.13	.08		-.07	-.12
Detailed recruitment ads		.05	.02		.24**	.08
Employee endorsements		.22**	.11		.34**	.13
Product awareness * general recruitment ads			-.15			-.02
Product awareness * sponsorship			-.38**			.19*
Product awareness * detailed recruitment ads			.29**			.41**
Product awareness * employee endorsements			.38**			.39**
Total R^2	.05	.16	.41	.02	.17	.37
Change in R^2	.05	.11	.24	.02	.15	.20
F-change	2.72*	8.47**	30.23**	1.04	12.01**	17.58**

n = 456 for within subjects regression, total observations = 2280
Individual effects are not shown or included in the model R^2
* $p < .05$
** $p < .01$

Table 4

Regressions Predicting Intentions to Apply

Variable	Model 1	Model 2	Model 3	Model 4
Log Number of employees	-.05	-.02	.02	.05
Degree level	.00	.03	-.05	-.03
GPA	.12	.14	.10	.02
School control 1	.04	.08	.03	.01
School control 2	.06	-.07	-.06	-.04
School control 3	-.02	-.06	-.02	-.03
Product awareness		.18**	.09	.03
General recruitment ads		.13	.07	-.04
Sponsorship		-.05	.01	.02
Detailed recruitment ads		.08	-.04	-.07
Employee endorsements		.16*	.03	.-.03
Product awareness * general recruitment ads			-.21**	-.03
Product awareness * sponsorship			-.24**	.05
Product awareness* detailed recruitment ads			.28**	.07
Product awareness* employee endorsements			.30**	.12
Employer familiarity				.31**
Employer reputation				.37**
Job Knowledge				.46**
Total R^2	.01	.08	.29	.43
Change in R^2	.01	.07	.218	.14
F-change	.76	3.34**	20.14**	14.49**

n = 456 for within subjects regressions, total observations = 2280
Individual effects are not shown or included in the model R^2
* $p < .05$
** $p < .01$

Table 5

Logistic Regressions Predicting Decisions to Apply

Variable	Model 1	Model 2	Model 3	Model 4
Log Number of employees	.13 (.10)	.07 (.12)	.05 (.12)	-.03 (.13)
Degree level	.09 (.10)	.11 (.12)	.19 (.21)	.30 (.23)
GPA	.08 (.07	.14 (.17)	.15 (.18)	.21 (.18)
School control 1	.07 (.18)	-.09 (.20)	-.20 (.21)	-.08 (.21)
School control 2	.08 (.22)	-.11(.19)	-.24 (.22)	-.08 (.23)
School control 3	.04 (.14)	-.03 (.16)	-.09 (.17)	-.04 (.21)
Product awareness		.31** (.08)	.18* (.09)	.05 (.16)
General recruitment ads		.10 (.07)	.23 (.20)	.41 (.33)
Sponsorship		-.19* (.08)	.35 (.28)	-.03 (.37)
Detailed recruitment ads		.23* (.10)	.34 (.28)	-.41 (.28)
Employee endorsements		.13 (.08)	.45 (.32)	.22 (.32)
Product awareness * general recruitment ads			-1.10* (.34)	-.64 (.38)
Product awareness * sponsorship			-1.22** (.41)	-.30 (.50)
Product awareness * detailed recruitment ads			1.20** (.42)	.88 (.50)
Product awareness * employee endorsements			1.31** (.35)	.32 (.47)
Employer familiarity				.36** (.09)
Employer reputation				.48** (.11)
Job information				.61** (.11)
Model Chi-Square	11.09	37.21	61.42	124.51
Chi-Square for step	11.09	27.44**	22.31**	66.21**
Total Cox & Snell R^2	.02	.09	.22	.36
Change in Cox & Snell R^2	.02	.07	.12	.14

B weights appear in the columns with standard errors in parentheses
n = 263 for within-subjects regressions, total observations = 1315
Individual effects are not shown or included in the model R^2
* $p < .05$
** $p < .01$

Figure 1
Proposed Model of the Interaction of Recruitment Strategies and Company Product Awareness

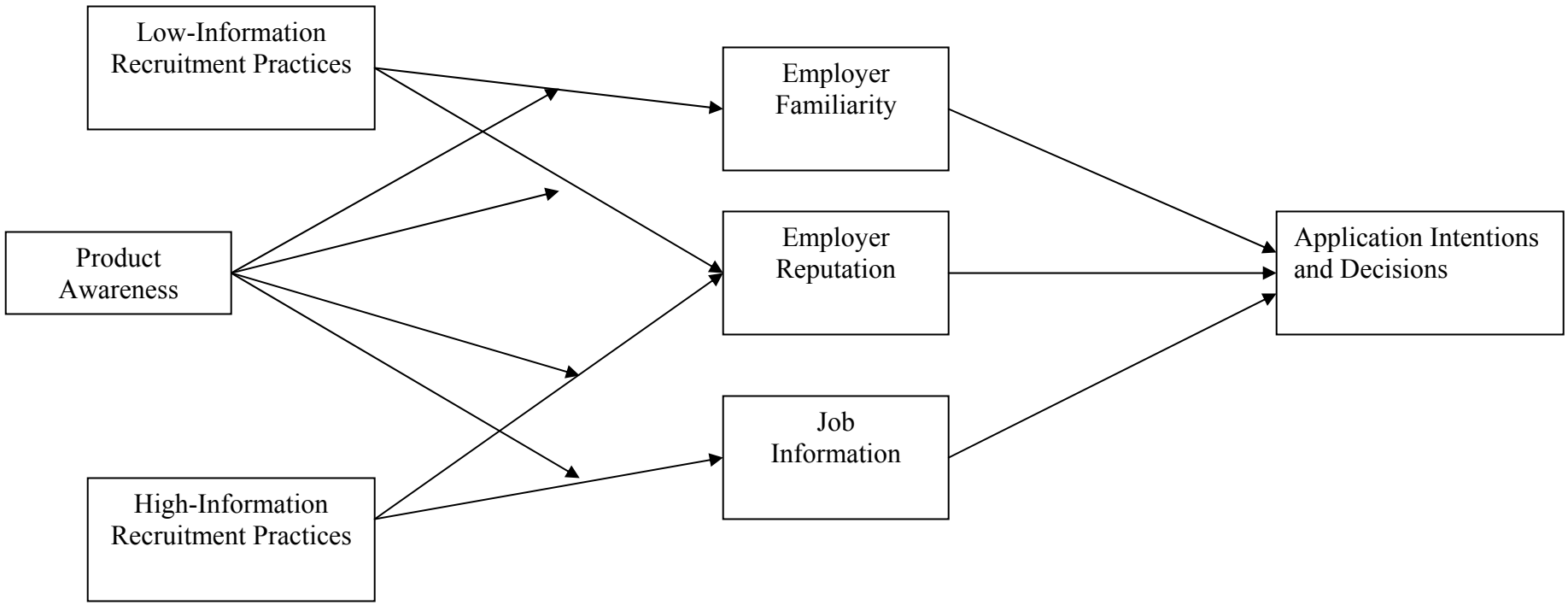


Figure 2

Interaction of General Recruitment Ads and Product Awareness on Employer Familiarity

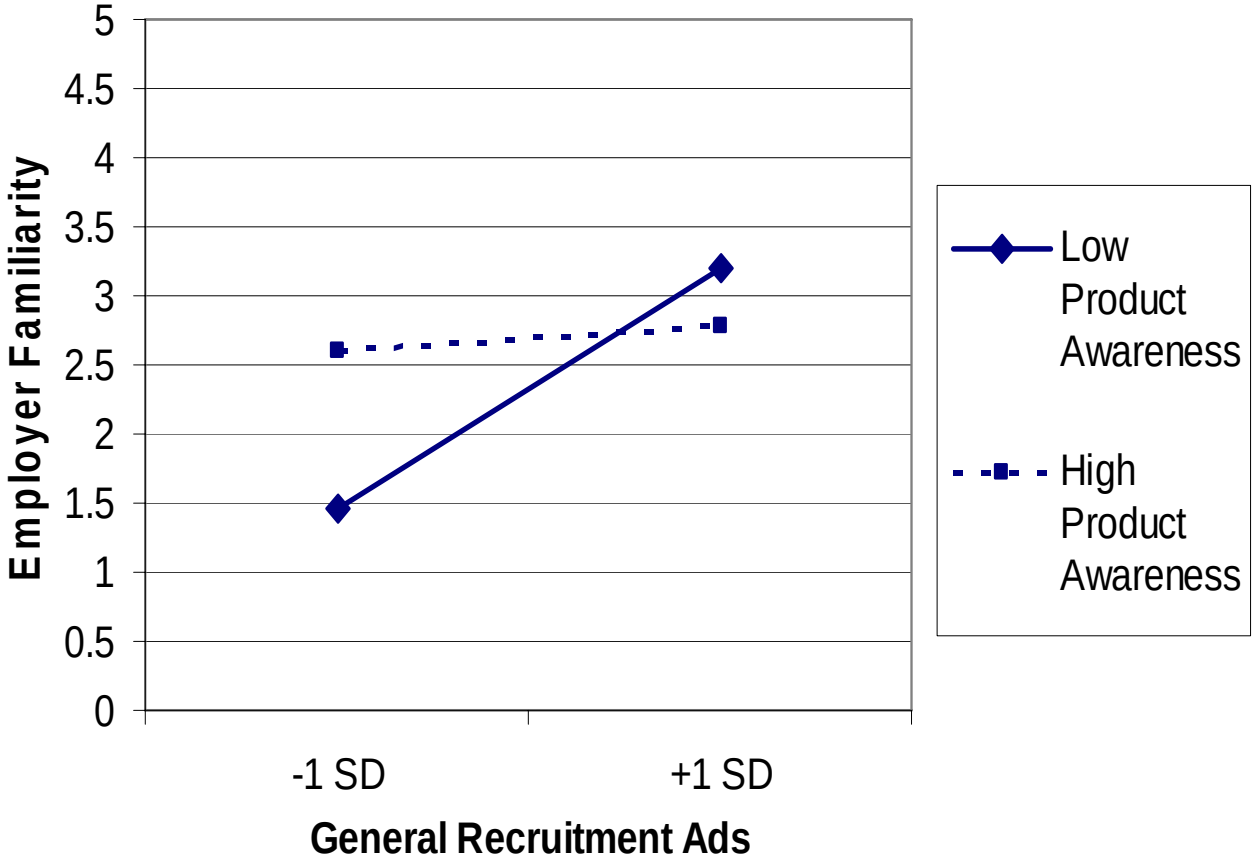
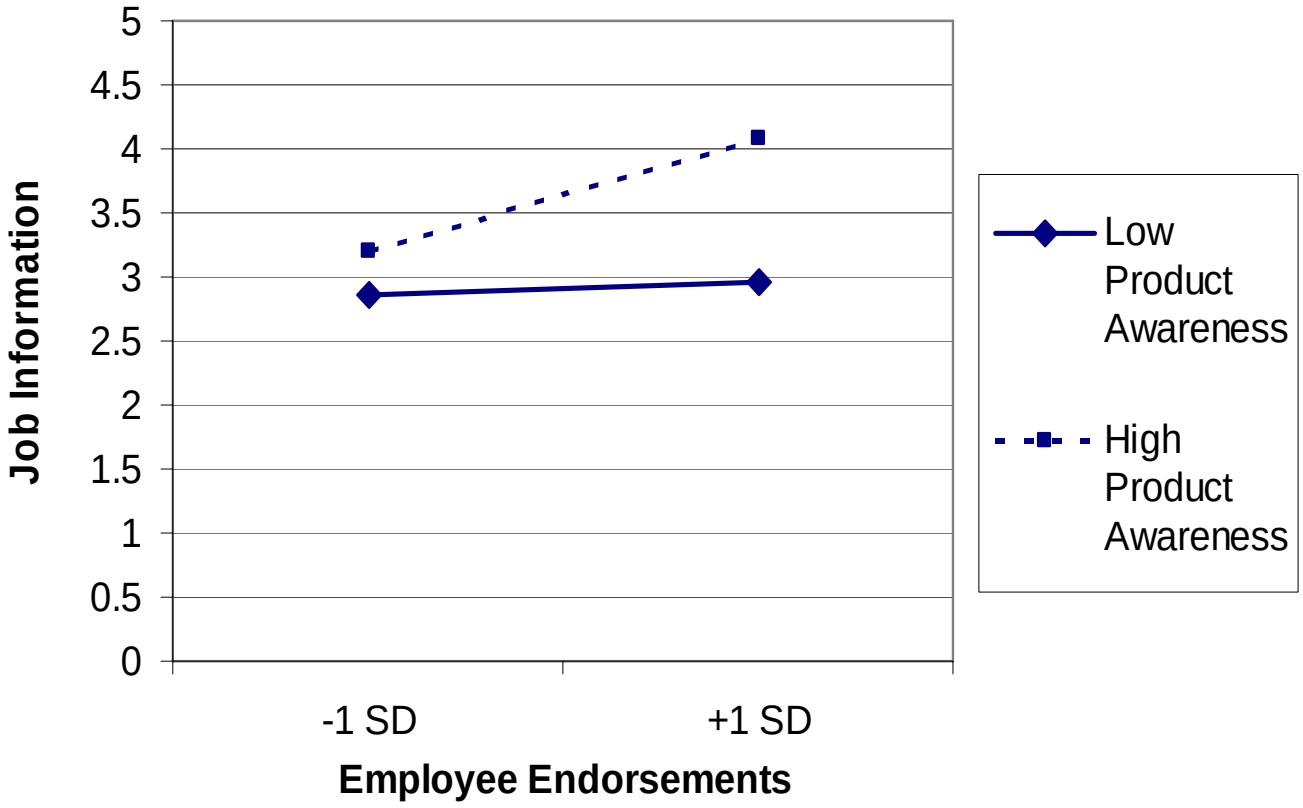


Figure 3

Interaction of Employee Endorsements and Product Awareness on Job Information



Appendix A

Recruitment Practice and Company Product Awareness Measures

Recruitment Practice	Item
General recruitment ads	1. We place banner advertisements on websites frequently visited by student job seekers. 2. We place ads in student newspapers to communicate general information about who we are as an employer. 3. We place posters containing general images and company logos in classroom hallways on campus.
Sponsorship	1. We have contributed money to the university in exchange for naming rights (e.g., classrooms, endowed chairs, buildings). 2. We have donated equipment that students will work on as part of their studies. 3. We sponsor non-athletic events on campus (e.g., concerts, tailgate parties, sports events). 4. We fund scholarships for students to complete their education.
Detailed recruitment ads	1. We have job postings on our career website that detail positions for new graduates. 2. We distribute recruitment brochures with detailed information about jobs and the company in the career services office. 3. We place job postings in career services offices (or on their careers website) that communicate details about open positions.
Employee endorsements	1. We send recent alumni back to campus on recruiting trips to discuss their experiences as employees. 2. We encourage recent alumni and interns to share their experiences with other students on campus. 3. We provide a forum for student interns or co-ops to share their experiences with other students on campus. 4. We send executives to campus to talk to students about what it is like to work at this company.
Product Awareness	1. I am very familiar with the products or services that this company offers. 2. I have frequently seen advertisements for the products or services of this company. 3. I can quickly recall the products or services of this company.

Appendix B

Employer Knowledge Measures

Measure	Item
Employer familiarity	1. This company is one of the first to come to mind when I think of employers. 2. I can recognize this company among other employers. 3. I am aware that this company hires students from my school. 4. I am very familiar with this company as an employer.
Employer Reputation	1. I believe that other students in the school think highly of this company. 2. My friends have high regard for this company as an employer. 3. I believe that my friends hold a favorable impression of this company as a good employer. 4. Other students in my school hold a favorable impression of this company as an employer.
Job Information	1. A job at this organization would have above average pay. 2. This organization would provide me with job opportunities in desirable locations. 3. This organization would provide me the type of job that I want. 4. This organization has good opportunities for career advancement. 5. A job at this organization would have a good working environment. 6. A job at this organization would have interesting assignments and responsibilities. 7. This organization would provide me with above average benefits. 8. This organization would provide jobs with good prospects for work-life balance.