

Organizational Attractiveness as an Employer on College Campuses: An Examination of the Applicant Population

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I extended recruitment research by sampling from the applicant population to investigate factors related to a firm's attractiveness as an employer on college campuses. Specifically, I surveyed potential applicants at nine different universities and university personnel (faculty and placement staff) at eight of those universities to investigate relationships of recruitment activities, organizational attributes, familiarity with the firm, and the social context with a firm's attractiveness as an employer. Results indicated that recruitment activities influenced firm attractiveness through influencing perceptions of organizational attributes. Additionally, familiarity with the firm and the social context, operationalized as perceptions of university personnel, were related to potential applicants' attraction to the firm. Finally, of additional interest was the finding of no differences in perceptions of organizational attributes or attraction to the firm between respondents who interviewed with the firm and respondents who had not interviewed with the firm. The implications of such results for firms interested in attracting applicants are discussed. © 2001 Academic Press

In part due to the shortage of qualified workers, organizations are facing difficulties in attracting qualified applicants (Adams, 1998; Highhouse, Zickar, Thorsteinson, Stierwalt, & Slaughter, 1999; Rynes, 1991). Such difficulties are expected to continue in the 21st century because of the low unemployment rate and the lack of qualified applicants for many positions (Judy, 1999), and organizations have started devoting considerably more resources to attracting and retaining qualified individuals (Leonard, 1999). For example, many firms are increasing their budgets for recruitment and now spend approximately 31% of the HR budget on recruitment and retention (Leonard, 1999). Organizations that attract more qualified applicants have a larger pool of applicants to choose from, which results in greater utility for the firm's selection system (Boudreau & Rynes, 1985; Murphy, 1986). Furthermore, although an individual's job choice process begins with the decision of whether to pursue employment with an organization, we know little about factors influencing this decision (Barber, 1998; Gatewood, Gowan, & Lautenschlager, 1993). The decision of whether to seek employment with a firm is important, however, because individuals who do not apply for jobs cannot be

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influenced by subsequent recruitment activities (Barber & Roehling, 1993; Rynes, 1991; Rynes & Barber, 1990). Initial application decisions are thought to be influenced by potential applicants' impressions of the firm's attractiveness as an employer, and although organizational attractiveness is the immediate objective of recruitment, very little research has investigated factors related to potential applicants' impressions of a firm's attractiveness as an employer (Barber, 1998; Highhouse et al., 1999; Rynes, 1991). Thus, there is limited empirical evidence to guide firms interested in attracting applicants. Therefore, this study extends the literature by examining factors related to college students' impressions of a firm's attractiveness as an employer.

Much of the empirical work examining applicant attraction to firms has measured attraction after a campus interview, in part because researchers have been interested in examining effects of recruiter behaviors on applicant attraction (e.g., Harris & Fink, 1987; Powell, 1984, 1991; Turban & Dougherty, 1992). Recent evidence indicates, however, that an applicant's preinterview attraction to firms is a stronger predictor of postinterview attraction than recruiter behaviors during the interview (Powell, 1991; Turban, Forret, & Hendrickson, 1998). More broadly, evidence suggests that early impressions of a firm are related to subsequent job choice decisions, suggesting that the recruitment process did little to change firms' attractiveness as employers (Lawler, Kuleck, Rhode, & Sorensen, 1975; Powell & Goulet, 1996). Furthermore, recent evidence indicates that measures of applicant attraction to a firm are related to subsequent decisions to accept site visit invitations and job offers (Cable & Judge, 1996; Judge & Cable, 1997; Powell & Goulet, 1996; Turban, Campion, & Eyring, 1995), suggesting the importance of studying applicant attraction. Scholars have noted that applicant attraction is the primary objective of recruitment and have called for more research examining applicant attraction (Barber, 1998; Rynes, 1991). Therefore, although recent evidence indicates the importance of early impressions of a firm on subsequent job application and job choice decisions, we know little about factors related to early impressions of a firm's attractiveness as an employer (Gatewood et al., 1993; Powell & Goulet, 1996; Rynes, 1991; Rynes & Barber, 1990).

Firms engage in various recruitment activities on college campuses to establish a "presence" and to improve students' impressions of the firm in an attempt to attract qualified applicants to on-campus interviews (Breaugh, 1992). Barber (1998) referred to this process as "generating applicants," as firms attempt to persuade individuals from the applicant population to apply for positions in the firm. This study extends the research literature by sampling from the *applicant population* to understand factors related to a firm's attractiveness as an employer. Based on propositions from signaling theory, I expected that recruitment activities would influence firm attractiveness through influencing perceptions of organizational attributes. Familiarity with the firm is expected to have both a direct and indirect effect on attraction through perceptions of organizational attributes. Finally, I extend research by investigating the effects of the social context on attraction to firms by measuring perceptions of university personnel.

THEORETICAL BACKGROUND

Firms attempt to attract applicants with recruitment activities, which on college campuses include recruitment materials, preinterview information sessions, receptions, and involvement in campus activities. Early studies investigating recruitment activities compared their effects with the effects of job attributes on applicant attraction to firms, labeled "the contest" by Wanous and Colella (1989), to determine whether recruitment activities influence attraction beyond the effects of job information. In general, these studies provided mixed results concerning the relative effect sizes of recruitment activities and job and organizational attributes (Harris & Fink, 1987; Powell, 1984, 1991; Rynes & Miller, 1983; Taylor & Bergmann, 1987), although as noted by Wanous and Colella (1989), the relative effect sizes probably depend upon the context. Scholars have suggested, based on propositions from signaling theory, that because applicants have incomplete information about organizations they interpret information they receive as "signals" about what it would be like to be employed by the firm (Breugh, 1992; Rynes, 1991; Spence, 1974). At early stages of the recruitment process it is difficult for applicants to know what it would be like to be an employee of the firm. Therefore, applicants are likely to interpret information about the firm as providing "signals" about what it would be like to work in the firm. More specifically, applicants may interpret recruitment activities as providing signals concerning working conditions in the firm (Breugh, 1992; Rynes, 1991). For example, unimpressive recruitment materials may signal that the company does not invest much in developing human resources, resulting in low attraction to the firm.

In addition to the signaling effect of recruitment activities, recruitment activities also provide information about organizational attributes because they are designed to emphasize the organization's positive aspects. Therefore, I propose a mediating model in which recruitment activities influence attraction through influencing perceptions of job and organizational attributes. Although much of the recruitment research has investigated direct effects of recruitment activities on organizational attractiveness, recent evidence suggests that recruiter behaviors influence attraction to the firm by providing information about working conditions in the firm (Goltz & Giannantonio, 1995; Turban et al., 1998). I extend such research by investigating the signaling theory proposition that a firm's college campus recruitment activities are related to attraction to the firm through influencing potential applicants' perceptions of organizational attributes.

Hypothesis 1: Recruitment activities influence attraction through their effects on perceptions of organizational attributes.

As noted above, employers engage in recruitment activities on campuses to establish a "presence" on campus so that the firm is familiar to potential applicants and therefore, hopefully, becomes the employer of choice (Breugh, 1992). At the organizational level of analysis, evidence suggests that familiar firms are perceived as more attractive employers (Gatewood et al., 1993; Turban & Greening, 1997), although no research was found that investigated this relationship at the individual

level of analysis. The lack of research concerning firm familiarity is somewhat surprising given that recruitment activities are designed, in part, to influence potential applicants' familiarity with the firm by providing them with positive information about firm attributes. I specifically examine the relationship among recruitment activities, familiarity with the firm, and attraction to the firm.

Evidence suggesting that firm familiarity will be positively related to attraction to the firm comes from the "mere exposure" research literature, which indicates that increased exposure to an object results in positive evaluations of that object (Zajonc, 1968). Marketing scholars have drawn upon that literature and have investigated brand awareness, a concept similar to firm familiarity. Evidence indicates that brand awareness has value because people like the familiar (Aaker, 1991). Therefore, based on research suggesting that familiarity leads to liking (Zajonc, 1968), I expect a direct effect of familiarity on attraction. In addition to the direct effect of familiarity on attraction, theoretical evidence suggests an indirect effect. More specifically, evidence indicates that consumers interpret brand awareness as a signal of important attributes such as quality of the brand (Aaker, 1991). Therefore, by extension, one might expect that firm familiarity may be interpreted by applicants as providing a signal about organizational attributes. Specifically, individuals who are more familiar with a firm may have more positive perceptions of organizational attributes because they attribute positive characteristics to familiar organizations in a manner analogous to how consumers attribute positive attributes to familiar brands (Aaker, 1991), suggesting that organizational attributes mediate the relationship between familiarity and attraction. Because I am uncertain whether to expect only a direct effect, only a mediating effect, or both a direct and a mediating effect, I propose the following two hypotheses.

Hypothesis 2: Familiarity with the firm will be positively related to attraction to the firm.

Hypothesis 2a: Familiarity with the firm will influence attraction through influencing perceptions of organizational attributes.

Firms attempt to establish relationships with faculty and placement center personnel in order to improve their presence on campus (Breugh, 1992). For example, firms send employees to campuses to interact with university personnel (faculty and placement center personnel) in order to improve these individuals' perceptions of the firm as an employer. Firms expect that the perceptions of the university personnel will be communicated to students who seek information about potential employers from these individuals. I found no research, however, that investigated whether perceptions of university personnel of a firm as an employer are related to students' attraction to the firm, although given the resources firms spend to increase their presence on campus it seems important to investigate such relationships to determine the utility of such efforts.

Theoretical and empirical evidence supports the idea that perceptions of the firm by university personnel will be related to students' attraction to the firm. As noted by Zalesny and Ford (1990), considerable evidence indicates that the social context influences individuals' perceptions, attitudes, and behaviors. Furthermore,

evidence suggests that students rely on social exchange networks when making application decisions about organizations (Kilduff, 1990; Rynes, Bretz, & Gerhart, 1991). More broadly, research suggests that individuals learn about and form impressions of firms through their social exchange network (Rynes et al., 1991). Thus, I examine whether the social context, operationalized as aggregate perceptions of university personnel, is related to students' impressions of the firm's attractiveness as an employer.

Hypothesis 3: Aggregate perceptions of university personnel of the firm's image as an employer and of the firm's presence on campus will be positively related to attraction to the firm.

In summary, I extend recruitment research by investigating factors related to potential applicants' and university personnel's impressions of the firm as a potential employer. I draw upon propositions from signaling theory to hypothesize that the relationship between recruitment activities and attraction is mediated by organizational attributes. Furthermore, I investigate whether and how firm familiarity is related to attraction to the firm. Finally, I investigate a cross-level hypothesis of whether the social context, operationalized as aggregate perceptions of university personnel about the firm, is related to students' attraction to the firm as an employer.

METHOD

Procedure

This study was part of a project that examined a single firm's recruitment activities at the top-tier (as specified by the firm) universities at which this firm attempted to attract applicants. The universities were private and public institutions and were located in various geographic regions of the country. The firm is a large petrochemical company that had recruited at these universities for several years before the data collection and had expended considerable energy at these universities to become the "employer of choice" of the top-tier applicants. This study was conducted to provide information about how the applicant population perceived the firm and was part of the firm's ongoing effort to provide information that allowed it to improve its ability to attract the best applicants. This firm structures its recruitment activities such that a recruitment team, which typically consists primarily of line personnel, is assigned to each university. These teams have the responsibility to coordinate recruitment activities at their specific university. Although the recruitment materials were consistent across the universities, some teams were more actively involved in campus activities such as meeting with placement personnel and faculty and speaking to student organizations. Therefore, company officials indicated there was considerable variability in recruitment activities and "presence" on campus across the universities.

In general, the target population for the study was engineering students, faculty, and placement center staff, although at some universities computer science and business majors were also targeted. I mailed surveys to junior and senior students, faculty, and placement center staff at the top-tier universities at which

this organization targeted its recruitment activities. Although the procedures varied somewhat across universities, in general I obtained students' names and addresses from university officials (typically individuals in the career and placement center). In general, students' names and addresses were obtained from either a student and faculty phone directory or from a computer-generated list of relevant majors created by university personnel. Depending upon the size of the university, surveys were mailed to all juniors or seniors who were majors in the fields in which the firm recruited applicants or researchers randomly chose a subset of individuals from the population of potential respondents. I mailed surveys to each student's home address and mailed surveys to faculty and placement center staff (subsequently referred to as university personnel) at their work addresses. The surveys were mailed to subjects during the spring semester, and all surveys included a mechanical pencil with the company name on it, which was included to increase response rates. Subjects were told the enclosed questionnaire was part of a larger program of research designed to evaluate recruiting and placement procedures used by companies. Respondents were asked to answer the questions honestly and frankly and to return the completed survey to the university-based researcher in the addressed and stamped return envelope.

I mailed surveys to students at nine universities and to university personnel at eight of those universities (I could not obtain addresses at the ninth university). I mailed surveys to approximately 200 students in the designated departments at each university and to approximately 100 faculty and placement center personnel at the same departments. For students, I mailed 1848 surveys; 86 were returned by the post office as undeliverable and 755 were returned for a 43% overall response rate. Response rates across the nine universities varied from 36 to 49%. Students who indicated they had previously worked for the firm ($n = 13$) were deleted from the study. I elected to retain the 76 respondents who indicated they had interviewed with the firm in order to examine whether interviewing with the firm influenced respondents' perceptions of and attraction to the firm. In effect, I had a quasi-experimental design in which interviewed (coded no or yes) was a between-subjects variable that allowed a comparison between individuals who interviewed with the firm and individuals who had not interviewed with the firm. To the best of my knowledge, no study has conducted such an analysis. For university personnel, I mailed 803 surveys; 21 were undeliverable and 354 were returned for an overall response rate of 45%. Response rates across the eight universities varied from 32 to 59%.

Subjects

The student subjects were predominantly White (70%) and male (70%). Most students were juniors (27%) or seniors (55%) with some work experience (76% had less than 2 years of full-time work experience). Most of the respondents were engineering (64%), computer science (10%), accountancy (7%), or management information system majors (6%). Approximately 68% of the subjects reported GPAs of 3.0 or higher.

University personnel were primarily faculty members (85%), with the remainder being placement staff or staff working in programs designed to attract and support

minorities and women in engineering careers. Approximately 56% of the university personnel respondents reported working 10 or more years at the university.

Measures

Organizational attributes. The survey asked students to respond to 19 items measuring organizational attributes by indicating how much better or poorer (5-point scale from 1-*Much poorer* to 5-*Much better*) the firm is compared to other companies that interview on campus and compete with it for candidates. Some items were adapted from earlier research (Harris & Fink, 1987; Powell, 1984; Turban et al., 1995), whereas others were developed for this study. Iterated principal factor analyses with varimax rotation suggested that three factors accounted for 50% of the variance in the items. I used items for scale development that had a factor loading above .40 for only one factor. Scale scores are the mean of the items such that higher scores indicate more positive perceptions.

The first factor, *company image* (five items, $\alpha = .83$), included these items: concern for the environment, high ethical standards, overall public image, involved in the community, and product quality. *Compensation and job security* (six items, $\alpha = .83$) included these items: benefits, compensation, job security, financially sound, treatment of employees, and opportunities for advancement. Finally, *challenging work* (five items, $\alpha = .85$) included these items: opportunities to learn and develop on the job, challenging work assignments, training and development programs, competence of personnel, and opportunities to use latest technology.

To investigate whether respondents reported differences in perceptions of organizational attributes across the universities, I conducted a multivariate analysis of variance followed-up with univariate analyses of variance using school as the independent variable and the organizational attribute scales as the dependent variables. The multivariate analysis of variance was significant, Roys' Greatest Root $F(8, 539) = 13.89$, $p \leq .0001$, as were all of the univariate analyses of variance. For company image across the universities the means ranged from 2.99 to 3.53, $F(8, 539) = 7.07$, $p \leq .01$. For compensation and job security the means ranged from 3.09 to 3.58, $F(8, 539) = 5.95$, $p \leq .01$. For challenging work the means ranged from 3.03 to 3.68, $F(8, 539) = 10.20$, $p \leq .01$. Such results indicate that respondents reported differences in perceptions of organizational attributes across the universities.

Recruitment activities. The survey asked students to respond to 19 items measuring recruitment activities on campus by indicating how much better or poorer (5-point scale from *Much poorer* to *Much better*) the firm is compared to other companies that interview on campus and compete with it for candidates. Iterated principal factor analyses with varimax rotation suggested that three factors accounted for 59% of the variance in the items. The first factor, *campus activity*, (9 items, $\alpha = .92$), included these items: interacting with student organizations; visible on campus; investing time, people, and resources in the graduate and undergraduate educational process; interacting with key faculty members; advertising on campus; sponsoring of campus events; concerned with improving

the educational process of graduate and undergraduate students; interacting with placement department; and co-op or intern employment opportunities. *Recruitment materials* (5 items, $\alpha = .88$) included these items: recruitment materials, job fair presence, recruitment brochures, preinterview presentations, and recruitment video. Finally, *recruitment process* (4 items, $\alpha = .83$) included these items: handling of the job offer, handling of the site visit, providing prompt decisions to applicants about their status, and quality of recruiters.

A multivariate analysis of variance with school as the independent variable and the recruitment scales as the dependent variables was significant, Roys' Greatest Root $F(8, 507) = 4.13, p \leq .0001$, as were all of the univariate analyses of variance. For campus activity across the universities the means ranged from 2.45 to 2.89, $F(8, 507) = 3.59, p \leq .01$. For recruitment materials the means ranged from 2.74 to 3.15, $F(8, 507) = 3.68, p \leq .01$. For recruitment process the means ranged from 2.76 to 3.09, $F(8, 507) = 2.38, p \leq .05$. Such results provide some support for company officials' expectation that recruitment activities varied across the universities.

Overall familiarity with firm. Students were asked to indicate "In general, how familiar are you with (firm) as a company" on a 5-point scale from 1-*Not at all familiar* to 5-*Very familiar*. Across the universities the means ranged from 1.72 to 2.82, $F(8, 678) = 8.41, p \leq .01$.

Attraction to the firm. The following three items ($\alpha = .88$) measured attraction on a 5-point scale (*Strongly disagree to Strongly agree*). I would exert a great deal of effort to work for "company," "company" would be one of my first choices as an employer, and I would definitely accept a job offer from "company" if I were offered one. Across the universities the means ranged from 2.71 to 3.86, $F(8, 675) = 13.26, p \leq .01$.

Interviewed with the firm. Because 76 respondents indicated they had interviewed with the firm, I created a dichotomous variable, *interviewed with firm*, that was coded 2 if respondents had interviewed and 1 if they had not interviewed with the firm. This is a behavioral variable coded such that higher scores indicates that the respondent interviewed with the firm.

Control variables. Consistent with previous research, I controlled for sex, race, work experience, year in school, and GPA in the regression analyses predicting attraction (Cable & Judge, 1994, 1996; Judge & Bretz, 1992). These variables are thought to influence attraction because individuals' demographic characteristics or GPA may influence their perceptions of their desirability as a job candidate, which in turn may influence their perceptions of the attraction of potential employers. For example, individuals with high GPAs may have lower attraction to a specific firm because they believe they will receive more opportunities than will individuals with lower GPAs. The measures of work experience and GPA were ordinal measures with four choices such that larger numbers indicate more experience or higher GPA. I also included the variable interviewed with the firm as a control variable, based on the expectation that respondents who had interviewed with the firm would have different perceptions that subjects who had not interviewed with the

firm. Furthermore, including interviewed with the firm in the regression equation tested whether it was related to attraction to the firm.

University Personnel Measures–Social Context Measures

Image as an employer. Respondents indicated “overall, how would you evaluate (firm’s) image on campus as an employer” on a 5-point scale from 1-*Very poor* to 5-*Very good*. Scores ranged from 2 to 5 with a mean of 3.4 and a standard deviation of .78.

Overall familiarity with firm. Respondents answered “in general, how familiar are you with (firm) as a company” on a 5-point scale from 1-*Not at all familiar* to 5-*Very familiar*. Scores ranged from 1 to 5 with a mean of 2.7 and a standard deviation of 1.31.

Frequency of seeing a firm representative on campus. The survey asked respondents to indicate how many times per semester, on average, they see a representative from the firm. Scores ranged from 0 to 6 or more times a semester, with an average of .59.

Hypothesis 3 proposed that perceptions of university personnel of a firm’s presence on campus and image as an employer will be positively related to students’ attraction to the firm. To investigate this cross-level hypothesis, I followed recommendations by Rousseau (1985) and aggregated university personnel scores to the university level to measure the social context, a group-level variable. In cross-level research in which the dependent variable is at the individual level and the independent variables are global variables, all individuals in the same unit should be assigned the same global score for a global variable before examining relationships at the individual level (Rousseau, 1985; Shamir, Zakay, Breinin, & Popper, 1998). As Rousseau noted, this approach allows the effects of the unit characteristics to be investigated at the level where those effects are hypothesized to occur. To justify aggregation, however, I must first demonstrate agreement within a group (university) (James, Demaree, & Wolf, 1984; George, 1990; Rousseau, 1985). Therefore for university personnel I calculated interrater agreement within universities following procedures described by James et al. (1984). The average interrater reliability for image of the firm as an employer was .71; reliability coefficients ranged from .63 to .77. For familiarity with the firm reliability coefficients ranged from .00 to .43, with an average reliability of .17. For frequency of seeing a firm representative on campus reliability estimates ranged from .49 to .96, with an average of .71. Because such results indicate acceptable interrater reliability for image of the firm as an employer and for frequency of seeing a representative on campus, I retained these variables for subsequent analyses but dropped familiarity with the firm, which had an unacceptable reliability.

ANALYSES AND RESULTS

Table 1 presents descriptive statistics and correlations. Results indicate that attraction to the firm was positively correlated with the organization attributes, recruitment activities, familiarity with the firm, and the frequency with which

TABLE 1
Descriptive Statistics and Correlations

	N	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<i>Control variables</i>																			
1. Interviewed with firm (1 = no, 2 = yes)	690	1.11	0.31	—															
2. Sex (1 = female, 2 = male)	693	1.7	0.46	-.11**	—														
3. Race (1 = minority, 2 = nonminority)	687	1.7	0.46	-.02	.02	—													
4. Work experience	606	1.46	0.94	-.05	.03	.12**	—												
5. Grade Point Average	693	2.91	0.88	.08*	-.07	-.10**	-.13**	—											
6. Year in school	613	3.31	0.86	.10*	-.09*	.07	-.05	-.01	—										
<i>Organizational attributes</i>																			
7. Company image	569	3.2	0.61	.05	-.11**	.02	.04	-.13**	.02	(.83)									
8. Compensation and job security	568	3.29	0.51	.01	-.04	.05	-.01	-.11*	.06	.63**	(.83)								
9. Challenging work	562	3.28	0.55	.03	-.11*	.05	.05	-.15**	.02	.64**	.67**	(.85)							
<i>Recruitment activities</i>																			
10. Campus activity	582	2.7	0.69	.08	-.06	.03	.01	.02	-.11	.36**	.28**	.34**	(.92)						
11. Recruitment materials	561	2.97	0.62	.11**	-.07	.04	.02	-.04	.00	.39**	.35**	.39**	.65**	(.88)					
12. Recruitment process	531	2.99	0.58	.03	-.08	-.03	.05	-.01	.01	.43**	.39**	.40**	.52**	.55**	(.83)				
<i>Familiarity</i>																			
13. Familiarity	687	2.2	1.03	.33**	-.05	.00	.06	-.11**	.07*	.25**	.25**	.26**	.24**	.22**	.23**	—			
<i>Social context^a</i>																			
14. Image as an employer	626	3.44	0.2	-.07	.08	-.18**	.10*	.14**	-.04	-.06	-.07	-.07	-.08	-.13**	-.11*	-.09*	—		
15. Frequency of seeing a representative	626	1.6	0.27	.04	-.01	.08	.02	-.14**	.13**	.16**	.12**	.20**	.11**	.10*	.08	.16**	.17**	—	
<i>Attraction</i>																			
16. Attraction	684	3.2	0.96	.06	-.06	-.07	.13**	-.25**	-.05	.42**	.40**	.46**	.23**	.22**	.24**	.35**	.00	-.18**	(.88)

Note: Numbers in parentheses are coefficient alpha for the scale.

^a Scores for the social context measures were created by assigning all individuals in the same university the global score for that university (Rousseau, 1985).

* $p \leq .05$.

** $p \leq .01$.

university personnel saw a company representative. Somewhat surprisingly, however, attraction was not related to whether the respondent had interviewed with the firm. Furthermore, interviewed with the firm was not related to the organizational attributes, which is surprising because one might expect that the campus interview would positively influence perceptions of the firm. Finally, recruitment activities were positively related to organizational attributes and to familiarity with the firm, as expected.

I elected to use regression analyses to test the hypotheses. Although I considered using structural equation modeling to test the mediating analyses, I used regression analyses because of the exploratory nature of some of the hypotheses and because regression analyses provide information about which measures of organizational attributes and recruitment activities are related to attraction as well as whether the set of variables is related to attraction. Therefore, I regressed attraction on the control variables, the three organizational attributes scales, the three recruitment activities scales, familiarity with the firm, and the two measures of the social context. For these analyses I determined the unique contribution of each set of variables by conducting a usefulness analysis (Darlington, 1968). This analysis involves calculating R^2 for a full model and then for a reduced model that does not contain the set of variables of interest. The difference in the variance explained between the full and reduced model is the unique variance (usefulness) accounted for by the removed set of variables and is identical to the variance the set of predictors would add after all the other predictors were entered in the equation. The calculation of unique variance is not influenced by the order of entry of variables in the regression equation (Pedhazur, 1982). Additionally, I examined the significance of the regression coefficient to determine whether that variable explains unique variance in attraction (Pedhazur, 1982).

Examination of the regression equation from the full model indicates that the predictors explained 34% of the variance in attraction to the firm (see Table 2). More specifically, the set of demographic characteristics, organizational attributes, familiarity, and social context explained unique variance in attraction. The individual variables that were related to attraction were GPA (negatively), company image, challenging work, familiarity with the firm, and university personnel perceptions of the firm's image as an employer. Furthermore, results from these regression analyses provide support for Hypothesis 3 in that, in general, students had more attraction to the firm as an employer when university personnel had more positive perceptions of the firm's image as an employer. Finally, although the recruitment activities were correlated with attraction to firm, as indicated in Table 1, they were not related to attraction in the full equation, suggesting that their effects were mediated by some of the other variables.

I tested the mediating effects following the logic presented by Baron and Kenny (1986). As discussed by Baron and Kenny (1986), to establish mediation the following conditions must be met: (1) the independent variable must influence the mediator; (2) the independent variable must influence the dependent variable; and (3) the mediator must affect the dependent variable while controlling for the independent variable, whereas the independent variable does not influence the

TABLE 2
Regression Analyses Predicting Attraction to Firm

Predictor	β	Unique R^2
Control variable		.029*
Interviewed with firm (1 = no, 2 = yes)	.04	
Sex (1 = female, 2 = male)	-.03	
Race (1 = minority, 2 = nonminority)	-.06	
Work experience	.09	
Grade Point Average	-.13**	
Year in school	-.01	
Organizational attributes		.143**
Company image	.18*	
Compensation and job security	.06	
Challenging work	.27**	
Recruitment activities		.003
Campus activity	.06	
Recruitment materials	-.06	
Recruitment process	-.01	
Familiarity		.027**
Familiarity	.18**	
Social context		.013*
Image as an employer	.11*	
Frequency of seeing a representative	.04	
R^2	.34**	
Adjusted R^2	.31	
N	342	

Note. Regression coefficients presented are for the full model. Unique R^2 refers to the unique variance accounted for by a set of variables.

* $p \leq .05$.

** $p \leq .01$.

dependent variable when the mediator is controlled. Support for these three conditions would indicate full mediation. Hypothesis 1 proposed that recruitment activities influence attraction through their effects on organizational attributes. Examination of Table 1 indicates that recruitment activities are related to the organizational attributes with correlations ranging from .28 to .43. In support of condition two, examination of the correlation matrix indicates that recruitment activities are related to attraction, with correlations ranging from .22 to .24. An additional regression analysis was conducted and indicated that the set of recruitment activities explained an additional 8% of the variance beyond that explained by the control variables with a significant regression coefficient for campus activity ($p \leq .01$). Such results provide support for condition two. Regression analysis with the control variables, the recruitment activities, and the organizational attributes provided a test of condition three. Results from this analysis indicated that none of the recruitment activities variables were significant but that two of the organizational attributes scales (company image and challenging work) were significant. Such

results provide support for Hypothesis 1 and indicate that organizational attributes fully mediate the effects of recruitment activities on attraction to the firm. More specifically, campus activity seems to influence attraction through influencing perceptions of the company image and the extent to which the work is challenging.

Hypothesis 2a proposed a mediating effect in which familiarity influenced attraction through its effect on organizational attributes. The correlation analyses indicated that familiarity was related to the organizational attributes (r 's ranged from .25 to .26) and to attraction ($r = .35$). In addition, in a regression equation predicting attraction that included the control variables and familiarity, the regression coefficient for familiarity was significant ($b = .31, SE = .04, p \leq .0001$). A regression analysis with the control variables, the organizational attributes, and familiarity provided a test of condition three. Results from this analysis indicated that the regression coefficients for company image and challenging work were significant and, importantly for the mediating analysis, the regression coefficient for familiarity was significant ($b = .19, SE = .04, p \leq .0001$) (results not shown in table). Such results suggest that familiarity has a direct effect on attraction as well as an indirect effect through company image and challenging work.

Additional analyses were conducted using the university personnel data to further investigate relationships of familiarity with the firm with the image of the firm as an employer. Results indicated that for university personnel the image of the firm as an employer was positively related to familiarity with the firm ($r = .26, p \leq .01, n = 217$) and to frequency of seeing a firm representative on campus ($r = .34, p \leq .01, n = 210$). In addition, image of the firm as an employer was regressed on familiarity with the firm and frequency of seeing a representative on campus. These variables explained 13% of the variance in image as an employer, and the regression coefficient for each variable was significant (for familiarity at $p \leq .0505$ and for seeing a firm representative at $p \leq .01$). Taken in sum, the results from the student sample and the university personnel sample support the conclusion that firms that are more familiar to respondents are seen as more attractive employers.

In summary, results supported Hypothesis 1 in that organizational attributes mediated the relationship between recruitment activities and firm attractiveness as an employer. Familiarity with the firm had both a direct and indirect effect on firm attractiveness, in support of Hypotheses 2 and 2a. Additionally, the social context, operationalized as aggregate perceptions of university personnel, was related to students' impression of the firm as an employer. Finally, the behavioral variable interviewed with the firm, which measured whether respondents had interviewed with this firm, was not related to attraction to the firm or to the organizational attributes, although it was correlated with one of the recruitment activities, namely recruitment materials, and with familiarity with the firm.

DISCUSSION

I extended recruitment research by examining the *applicant population* rather than the *applicant pool* (Barber, 1998). As described by Barber (1998), the applicant

population is the group from which the organization attempts to recruit individuals; the applicant pool consists of those individuals who choose to apply to the organization. I know of no other research that has examined the applicant population, although such research is crucial to understand how to get potential applicants in the applicant pool. I investigated predictors of applicant attraction to the firm, not actual application decisions. Nonetheless, considerable evidence is beginning to indicate that measures of applicant attraction are subsequently related to actual decisions to accept site visit invitations and job offers (Cable & Judge, 1996; Judge & Cable, 1997; Powell & Goulet, 1996; Turban et al., 1995). Furthermore, a similar pattern of relationships of predictors is found with measures of attraction to the firm and actual job offer decisions, suggesting that results using attraction as a dependent variable may generalize to actual decisions (Cable & Judge, 1996; Turban et al., 1995). Therefore, this study has a number of implications for practitioners and researchers.

A notable contribution of this study is the finding concerning the indirect effects of recruitment activities on attraction to the firm. Earlier studies investigating recruitment activities compared their effects with the effects of job and organization attributes on applicant attraction and concluded that recruitment activities were not related to attraction (Harris & Fink, 1987; Powell, 1984). Based on signaling theory and recent theorizing (Barber, 1998; Spence 1974; Turban et al., 1998), however, I hypothesized that recruitment activities may influence attraction through influencing knowledge of the firm and perceptions of vacancy characteristics (Barber, 1998; Turban et al., 1998). Consistent with signaling theory, the results suggest that applicants interpret recruitment activities as signals for unknown organizational attributes and corroborate recent evidence indicating that recruiter behaviors influence applicant attraction through influencing perceptions of job and organizational characteristics (Goltz & Giannantonio, 1995; Turban et al., 1998). Taken in sum, these results highlight the importance of recruitment activities and suggest that organizations should closely examine their recruitment activities to determine what information is being communicated to applicants via these activities. Furthermore, researchers should not assume that recruitment activities are unimportant because they do not directly influence attraction, but rather researchers should continue to investigate *how* recruitment activities influence attraction (i.e., mediating models) and also investigate which types of recruitment activities have the greatest utility for increasing firm attractiveness as an employer. Additionally, future research might examine differences in what recruitment activities “signal” to various types of students. For example, being “wined and dined” may be interpreted differently (i.e., send different signals) to MBA and liberal art students. More broadly, based on the person–organization fit perspective, one might expect that recruitment activities that target minorities and women may provide different signals for minorities and women than for nonminorities and men.

Results supported the hypothesis that firm familiarity will be positively related to attraction to the firm, although such results must be interpreted with caution since the study was based on a single firm with an excellent reputation as an

employer. Some firms may be familiar because they have received considerable negative publicity, leading to a negative relationship between familiarity and attraction. Nonetheless, other studies using the firm as the unit of analysis found that familiar firms were rated as more attractive employers (Gatewood et al., 1993; Turban & Greening, 1997). I expect that one reason familiar firms are perceived as more attractive employers is because organizations engage in various activities, such as public relations, recruitment, and advertising, so that potential applicants will hear positive things about the firm. Another explanation for the relationship between familiarity and attraction, based on propositions from social identity theory (Ashforth & Mael, 1989), is that individuals may expect to feel proud working for a familiar firm and therefore view it as a more attractive employer. I conducted additional post-hoc correlation analyses in order to provide insight concerning correlates of familiarity with the firm. Results indicated that respondents were more familiar with the firm when they knew someone who worked for the firm ($r = .44$), when they had seen an employee of the firm on campus ($r = .42$), when they used the firm's products ($r = .25$), and when they had studied the firm in class ($r = .20$). Such results suggest that firms may be able to increase their familiarity to applicants, and perhaps their attractiveness as an employer, by engaging in certain recruitment activities on campus such as sending employees to campus or distributing cases or other class materials that describe the company in a positive manner.

I theorized that the social context would influence attraction because impressions of university personnel would be communicated to potential applicants. Results indicated that the aggregate perceptions of university personnel were related to potential applicants' attraction to the firm, in support of the social context hypothesis. These results, along with the results indicating that familiarity is related to attraction, support prescriptions that employers should attempt to establish ongoing relationships with faculty and campus placement center staff in order to increase their "presence on campus" and thereby positively influence students' attraction to their firm (Breaugh, 1992). Additionally, our results suggest that firms might consider providing students with positive internship experiences so students return to campus and talk positively about the firm to prospective applicants and to university personnel. Rynes et al. (1991) presented evidence indicating that students learned about potential employers through information obtained from friends and acquaintances. Similarly, Kilduff (1990) found the social network influenced individuals' choices of firms to interview with such that pairs of individuals who were friends or perceived each other as similar tended to interview with similar companies. Such results indicate the importance of social networks and suggest that firms may be able to increase their attraction on campus by targeting key individuals in the social network. By extension, results from the current study suggest the importance of recruitment activities that target key university personnel (i.e., faculty and placement staff) who may be opinion leaders for students seeking employment.

Although I suspect that the social context influences attraction to the firm for applicants other than college students, such as experienced workers, clearly the

social context differs for college students and experienced workers. As noted by scholars (Barber, 1998), much of the recruitment research has examined college students. Although firms spend a considerable amount of time and effort recruiting on college campuses, it is important to study potential applicants who are not college students. It seems likely that many of the findings from this study will generalize to noncollege student populations, although future research is necessary to investigate this question. Nonetheless, recruitment activities probably have indirect effects on attraction through influencing perceptions of organizational attributes for experienced workers as well as college students. Furthermore, familiarity is probably an important influence on attraction for experienced workers. As noted by Barber (1998) in her review of the recruitment research literature, we know very little about the early stages in the recruitment process. I urge researchers to continue investigating the early stages of the recruitment process and to attempt to collect data from noncollege student populations.

An important finding of this study is that familiarity with the firm and the social context were related to attraction to the firm as an employer. Although such results suggest the importance of a firm's recruitment activities on campus for increasing its presence on campus and subsequently students' initial attraction to the firm as an employer, I measured respondents' perceptions of recruitment activities and responses were based on a single firm. Therefore, future research should more explicitly investigate the effects of actual recruitment activities by using objective measures, such as the number of times firm representatives actually visited the campus. Furthermore, subsequent studies might extend our results by investigating recruitment activities across firms recruiting at the same university. Although firms commit substantial resources to campus recruitment activities to attract the top-quality applicants, little evidence indicates which activities have the greatest utility.

I acknowledge certain limitations of this study. First, although the sample was geographically diverse, data were collected at a small number of universities and examined perceptions of and attraction to a single firm. Because data were collected from a single firm, which may have had limited variability in recruitment activities across the universities, the results from this study may underestimate the effects of recruitment activities, which might have greater variance across firms than within a firm across universities. The firm I studied was a relatively large firm that is familiar to most college students and thus our results may not generalize to smaller firms that are not as familiar. Data were collected using a survey instrument and a cross-sectional research design, which has certain limitations. For example, for the analyses involving only the student responses, same-source method variance may have inflated the relationships among the variables. It seems unlikely, however, that method variance is an alternative explanation for our results. Method variance may inflate the magnitude of relationships among the variables but does not account for the *pattern* of relationships found in this study (i.e., the mediating effects of organization attributes). Furthermore, the analyses examining the influence of the social context, which used aggregate perceptions

of university personnel, were not affected by same-source method variance. Although I used relevant theory to predict relationships among the variables, because the data were collected at one point in time, we cannot make definitive conclusions about directions of causality. Additionally, although the response rate for this study was approximately 43%, which was deemed adequate for mailed surveys, I was not able to determine whether this sample was representative of the population to whom surveys were mailed. The sample was relatively diverse, however, and employees of the firm indicated the sample appeared representative of individuals they attempted to attract to their firm. Finally, I investigated applicant attraction to a firm, not actual application decisions. Although recent evidence indicates that predictors have a similar pattern of relationships with measures of applicant attraction and with actual decisions (Cable & Judge, 1996; Turban et al., 1995), future research should attempt to obtain measures of actual application decisions.

A noteworthy aspect of this study is the comparison of perceptions of individuals who interviewed with the firm with individuals who had not interviewed with the firm. Interestingly, whether individuals had interviewed with the firm was *not* related to perceptions of organizational attributes or the firm's attractiveness as an employer. This is somewhat surprising given that one function of the initial interview is to "sell" the firm to applicants (Barber, Hollenbeck, Tower, & Phillips, 1994; Rynes, 1989; Turban & Dougherty, 1992), suggesting that individuals who interview with a firm should have more positive perceptions of the firm. Nonetheless, recent evidence suggests that preinterview perceptions of the firm influence how applicants interpret behaviors occurring during the initial interview and therefore are strongly related to postinterview perceptions of the firm (Powell & Goulet, 1996; Stevens, 1997). Taken in sum, such results suggest that (1) firms need to focus on recruitment activities that positively influence potential applicants' preinterview impressions of the firm as an employer and (2) firms should stress the positive aspects of the firm during the initial interview (i.e., "sell" the firm) in a realistic manner. Additionally, researchers need to better understand how preinterview impressions are formed and to continue investigating how initial interviews can be conducted to positively influence applicant attraction.

In summary, I extended recruitment research by examining the applicant population rather than the applicant pool (Barber, 1998). In general, results suggested that the relationship of recruitment activities with applicant attraction is more complex than has been previously theorized. Recruitment activities influence attraction through perceptions of organizational attributes, in support of propositions from signaling theory. Additionally, recruitment activities were related to familiarity with the firm and with the measures of the social context, which in turn were related to firm attractiveness. Such findings suggest that although recruitment activities may not have a direct effect of attraction, research is needed to examine how recruitment activities influence potential applicants' perceptions of the firm, which may in turn influence attraction. More broadly, I agree with scholars who have called for additional research to investigate how potential applicants'

perceptions of firms are formed and what influences such perceptions (Barber, 1998; Fombrun & Shanley, 1990; Gatewood et al., 1993). Finally, based on the finding that familiarity is related to attraction, scholars may want to examine the marketing literature (e.g., Aaker, 1991, 1996) to better understand factors related to firm familiarity. Although firms commit substantial resources to campus recruitment activities to attract the top-quality applicants, to date there has been little evidence to indicate which activities have the greatest utility in attracting applicants.

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