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Changing an Unfavorable Employment Reputation: A Longitudinal Examination

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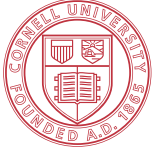
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School of Industrial and Labor Relations
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This paper has not undergone formal review or approval of the faculty of the ILR School. It is intended to make results of Center research available to others interested in preliminary form to encourage discussion and suggestions.

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Abstract

Although a favorable employment reputation plays an important role in generating a large and qualified pool of job applicants for an organization (Rynes & Cable, 2003), little research has investigated whether organizations can improve applicants' existing unfavorable employment reputation perceptions. Results from a four-week longitudinal experiment using 222 student job seekers revealed that participants' employment reputation perceptions improved after exposure to recruitment practices and followed diminishing returns trajectories over time. High information recruitment practices (e.g., personal communication from a recruiter) from both single and multiple sources were more effective for changing unfavorable employment reputation perceptions than repeated mere exposure to the organization (i.e., exposure to only the company logo), and high information practices from multiple sources were the most effective overall. Finally, participants reporting less familiarity with the organization experienced greater reputation change across the four weeks, but only for participants in the mere exposure condition.

The quality of an organization's workforce depends in part on the company's appeal to prospective job applicants. Organizations that attract more and higher-quality applicants obtain greater utility in their selection systems (Boudreau & Rynes, 1985) and may secure a competitive advantage in the marketplace (Taylor & Collins, 2000). One of the most important factors influencing a firm's ability to recruit a large and high-quality applicant pool is the company's reputation as an employer (Rynes & Cable, 2003; Turban & Cable, 2003). Some evidence even suggests that a job seeker's attraction to an organization is based mainly on his or her perceptions of an organization's employment reputation (Gatewood, Gowan, & Lautenschlager, 1993). This is problematic for firms with unfavorable employment reputations because they may receive substantially fewer job applications than firms with more favorable employment reputations (Collins & Han, 2004; Turban & Cable, 2003). For instance, Turban and Cable (2003) found that firms with less favorable employment reputations (i.e., one standard deviation below the mean) received 50% fewer, and lower-quality, job applications from undergraduate and graduate business students than firms with more positive employment reputations (i.e., one standard deviation above the mean). Understanding ways to manage an unfavorable employment reputation is vital to the success of a large number of companies if they are to compete for talent.

In recent years, researchers studying organizational employment reputation and applicant attraction have made advances in understanding the antecedents of applicants' employment reputation perceptions (Rynes & Cable, 2003). Although promising, this literature provides little insight into the important question of whether and how a firm with an existing unfavorable employment reputation can alter applicants' negative perceptions (Barber, 1998; Cable & Turban, 2001; Collins & Stevens, 2002; Ployhart, 2006). Cable and Turban (2001) suggested that a firm may be able to change applicants' unfavorable perceptions through the use of recruitment activities; however, there is no direct evidence that firms are able to change

job seekers' existing negative perceptions about employment at a company. In fact, a few studies have indirectly suggested that firms with negative employment reputations may face unique challenges that firms with positive or neutral employment reputations do not face. For instance, individuals' job application decisions may be determined largely before the beginning of formal recruitment (Powell & Goulet, 1996; Stevens, 1997), suggesting that company recruitment activities may have little impact on applicants' negative employment reputation perceptions.

Previous studies of employment reputation in the recruitment literature have been methodologically limited for addressing questions of employment reputation change because they have either used cross-sectional designs or assessed the impact of a single recruitment practice on employment reputation perceptions. Cross sectional designs are limited because they cannot address causal questions about employment reputation change and they imply that recruitment activities have a linear influence on employment reputation change over time (Van de Ven, 2007). In addition, the paucity of empirical studies examining multiple recruitment practices is surprising given that companies rarely use only a single recruitment intervention to target applicants (Collins & Stevens, 2002). Due to these limitations, a more promising methodology is needed to examine the process through which different recruitment practices and individual difference factors impact the change trajectories of job seekers' reputation perceptions over time.

This study contributes to the recruitment literature in at least four ways. First, it provides a preliminary examination of the critical but essentially unaddressed question of whether a firm can change job seekers' existing negative employment reputation perceptions. Second, we focus on the ways that different sets of recruitment practices (i.e., high and low information) might impact applicants' negative employment reputation perceptions over time. Third, this study examines the relationship between individuals' familiarity with an organization and the

extent to which individuals change their perceptions of the company's employment reputation over time. Although prior research has suggested that familiarity is an important correlate of employment reputation perceptions (Brooks, Highhouse, Russell, & Mohr, 2004; Rynes & Cable, 2003), little research has addressed the practical issue of the relationship between familiarity and reputation *change*. Fourth, we model applicants' reputation change trajectories over time. This not only allows us to model the diminishing returns of multiple recruitment messages, but also allows us to compare participants' trajectories after exposure to different sets of recruitment messages. We test our hypotheses with a longitudinal experimental study where we assess changes in students' employment reputation perceptions before and after exposure to recruitment interventions over a four-week period.

Conceptual Background and Hypotheses

Organizational employment reputation refers to an individual's perceptions of the general public's feelings towards an organization as an employer (Cable & Turban, 2001). In contrast to organizational employment image—which focuses on the content of an individual's personal beliefs about job and organizational attributes (e.g., firm size), organizational employment reputation is affective and focuses on a social referent (Cable & Turban, 2001). Applicants' perceptions of employment reputation may vary based on previous exposure to the organization (e.g., product exposure, internships, recruitment practices; Cable & Turban, 2001; Collins, 2007). Employment reputation has been found to influence applicant attraction, organizational pursuit intentions (Cable & Turban, 2003; Highhouse, Lievens, & Sinar, 2003), application decisions (Collins, 2007), and applicant pool quality and quantity (Collins & Han, 2003; Turban & Cable, 2003).

Prior research has found that company employment reputation influences applicant attraction in two main ways. First, employment reputation acts as an important signal to job applicants who often lack meaningful knowledge about a firm as an employer and therefore may

have difficulties assessing the quality of potential future work experiences with the company (Rynes, 1991). Indeed, empirical research suggests that job seekers rely on their perceptions of a company's employment reputation to infer the presence or absence of desirable job and organizational attributes (Cable & Turban, 2003). Similarly, Kilduff (1990) found that job seekers rely on their peers' opinions about an organization to infer whether or not the organization is a legitimate employer. When job seekers believe that their peers view an organization unfavorably, they perceive that the organization lacks desirable job and organizational attributes.

Second, a firm's employment reputation influences applicant attraction because pursuing and joining an organization is a public expression of an individual's traits, abilities, and values (Highhouse, Thornbury, & Little, 2007). Social identity theory (Ashforth & Mael, 1989) suggests that employment reputation plays an important role in an individual's self-concept because pursuing and joining a firm with a favorable employment reputation can publicly reflect pride onto an individual and can satisfy the individual's self-esteem needs through perceptions of social approval (Cable & Turban, 2003). Individuals therefore desire to associate with organizations with positive employment reputations in order to bask in the reflected glory of the firm and enhance their self-concept (Cialdini et al., 1976). Job seekers expect to feel pride after joining an organization with a positive employment reputation (Cable & Turban, 2003) and embarrassment or shame after pursuing an organization with a negative employment reputation (Dutton, Dukerich, & Harquail, 1994).

Changing a Negative Employment Reputation

Although researchers have found that employment reputation leads to important outcomes and have begun to uncover reasons why employment reputation is important, we could find no published research that has addressed whether an existing negative employment reputations is changeable (Barber, 1998; Cable & Turban, 2001; Collins & Stevens, 2002;

Ployhart, 2006). On one hand, some prior research suggests that applicants may interpret information obtained during recruitment activities to be consistent with a firm's reputation (Breugh, 1992; Stevens, 1997). This suggests that job seekers may be less receptive to recruitment messages from companies with negative employment reputations or may ignore them completely. On the other hand, Cable and Turban (2001) argued that employers may be able to change applicants' negative beliefs through recruitment practices—especially when applicants' negative beliefs are inaccurate. An organization may therefore be able to use recruitment activities to create more positive beliefs and to improve the job seeker's perceptions of the company as an employer (Gatewood et al., 1993). In the present study, by addressing a company's employment reputation through messages about employment at the company, we expect that job seekers may develop more favorable perceptions of a company's employment reputation. Next, we review the literature that discusses how different recruitment strategies can change applicants' beliefs and perceptions. We then discuss how applicants' familiarity with the organization may limit the extent to which an organization can alter applicants' existing unfavorable employment perceptions.

High and Low Information Recruitment Practices

Because employment reputation perceptions influence application behaviors, it is crucial for recruiters to understand how to systematically change these perceptions. Collins and Han (2004) extended theories from the marketing literature to classify organizations' recruitment practices into two general categories—low and high information—that are designed to influence job seekers through different mechanisms. Low information or mere exposure practices contain little information and are designed to create awareness of an organization but have little or no significant effect on more detailed beliefs about the company (Collins, 2007). For example, organizations might place recruiting posters or banner ads that simply display the company name in places that are visible to prospective applicants. The positive effects caused by mere

exposure do not result from job seekers consciously processing the advertisements, but result from increased positive affect that occurs when a company comes into mind more easily (Fang, Singh, & Ahluwalia, 2007). By increasing awareness, recognition, and processing fluency, low information or mere exposure strategies are an important form of influence for unknown companies.

High-information practices are designed to influence job seekers through detailed messages about the company and the job (Collins & Han, 2004). For example, companies communicate details about the work environment, salary, growth opportunities, and other important attributes through detailed recruitment messages (e.g., job postings, information sessions). In contrast to mere exposure to the organization, high information messages are effective when job seekers cognitively process the messages. Job seekers who process these messages in high-information practices may develop accurate and favorable impressions of employer reputation (Barber & Roehling, 1993; Collins & Han, 2004).

Based on this research, we expect that mere exposure to the organization will be less effective than high information practices for changing existing unfavorable employment reputation perceptions. First, mere exposure is generally ineffective when job seekers are already aware of an organization (Collins & Han, 2004). Second, mere exposure likely does not reduce or replace any of the applicants' existing negative or inaccurate associations with the firm (Brooks, Highhouse, Russel, & Mohr, 2004). Collins and Han (2004) argued that mere exposure practices do not contain the types of details about the company needed to change existing perceptions of the organization. We, therefore, predict that exposure to high-information recruitment practices will have a greater positive impact on applicants' existing negative employment reputation perceptions than will mere exposure to the organization.

Hypothesis 1: High-information recruitment practices will have a greater positive impact on employment reputation trajectories than mere exposure to the organization.

Recruitment messages from multiple sources

High information recruitment practices influence employment reputation beliefs when individuals have motivation to seek out and process the detailed information and arguments contained in the messages (Cable & Turban, 2001; Collins & Han, 2004). However, cognitive psychologists suggest that individuals are cognitive misers, carefully choosing where to focus their attention in order to conserve mental resources (Wyer & Srull, 1986). This should be especially true during job search when job seekers are flooded with messages from recruiting organizations (Rynes & Boudreau, 1986; Gatewood et al., 1993). Job seekers will likely attend to high-information recruitment practices only if they believe that doing so will provide them with some benefit or new information for assessing the company (Cable & Turban, 2001). Hence, companies must find ways to engage applicants during the high-information recruitment practices.

The attitude change and persuasion literature suggests that the use of multiple message sources can increase processing of strong arguments (Harkins & Petty, 1987; Moore & Reardon, 1987). Compared to a single source conveying identical messages, multiple sources enhance the persuasiveness of messages because each new message source provides renewed cognitive stimulation and enhances perceptions of message credibility (Harkins & Petty, 1987; Moore & Reardon, 1987). Individuals perceive each new source as adding value beyond the content of the messages, increasing the likelihood that individuals will respond to the messages. For instance, Chang and Thorson (2004) found that consumers who were exposed to multiple marketing messages from multiple sources reported a greater number of positive thoughts and paid more attention to the messages than consumers who were exposed to multiple messages from a single source.

In the recruitment literature, Collins and Stevens (2002) found partial evidence that combinations of recruitment practices can have positive effects on job seekers' organizational

image beliefs. However, the study provided limited insight into the effects of multiple recruitment sources because it used a cross-sectional design and could not rule out the possibility that job seekers sought-out exposure to multiple recruitment sources for more attractive organizations (i.e., reverse causality). Because organizations rarely use only a single recruitment practice, it is critical to examine the impact of multiple message sources in a more controlled and longitudinal context. We predict that high information recruitment messages from multiple sources will have a greater positive impact on job seekers' perceptions of organizational employment reputation than high information messages from a single source.

Hypothesis 2: Multiple high-information recruitment messages from multiple sources will have a greater positive impact on employment reputation trajectories than multiple high-information recruitment messages from a single source.

Familiarity and employment reputation change

Employer familiarity refers to a job seeker's awareness of an organization (Cable & Turban, 2001). Drawing on the brand equity literature from marketing, Cable and Turban conceptualized a job seeker's familiarity with an organization as an anchor or template in his or her mind for associations for the organization. Job seekers who are more familiar with an organization tend to have a greater number of associations with an organization than job seekers who are less familiar (Brooks, Highhouse, Russel, & Mohr, 2004). When a job seeker is familiar with an organization and has a large number of associations, the associations are deeply embedded in memory and are resistant to change. Job seekers who hold unfavorable perceptions of a firm's employment reputation likely have more salient negative associations than positive associations. We expect that an organization should have more difficulties changing unfavorable reputation perceptions held by individuals who are more familiar with the firm than for those who are less familiar.

Hypothesis 3: Familiarity with the organization negatively relates to employment reputation change, such that individuals who are more familiar with the company

improve their reputation perceptions at slower rates than those less familiar with the company.

Methods

Pilot study

Because this study was interested in changing applicants' perceptions of a firm with an existing unfavorable employment reputation, we conducted a pre-test to identify a company that participants found familiar and viewed as possessing a negative employment reputation. We drew a sample of participants who were in the same academic college as those in our focal study but enrolled in a different course. Participants (n = 39) rated their familiarity and employment reputation perceptions for 10 organizations that were counterbalanced for order effects¹. Details of this analysis are available from the first author upon request. Using the results from the pilot study as a guide, we chose MCI WorldCom as the organization with a negative employment reputation for three reasons. First, MCI WorldCom had the second worst reputation of the ten companies we tested, and was perceived as significantly worse than most of the other companies. Given that several of the companies (e.g., K-Mart, Martha Stewart OmniMedia, Tyco) were experiencing widespread negative press during the time of our study, the results suggested that participants perceived MCI WorldCom as having a relatively unfavorable reputation. Second, we found that participants were generally familiar with MCI WorldCom, and more familiar than they were with several companies that were concurrently recruiting on campus. Third, MCI WorldCom was not actively recruiting on campus which reduced the likelihood that students would encounter extra information about the company without intentional search. For three years prior to the beginning of our study, MCI WorldCom had been receiving negative publicity after an internal audit had discovered massive accounting fraud.

Participants, procedure, and design

Participants in the focal study were undergraduate students enrolled in an introductory human resources management course. All students enrolled in the course (N = 257) were invited to participate as an extra credit opportunity. Two hundred and twenty-two (222) students began the study and 213 participants completed all four time periods, thus representing a 96% retention rate through the four-weeks. All participants (average age = 19.9 years, SD = 2.74) who began the study were included in the data analyses. The sample (46% female) was ethnically diverse, with 69% percent of respondents self-categorizing as White/Caucasian, 9% African American, 10% Hispanic/Latino, and 12% Asian/Pacific Islander. Seventy-four percent (74%) of participants reported having actively searched for a job in the past six months.

To test our hypotheses, we used a longitudinal experimental design where participants encountered one of three sets of recruitment messages and rated their perceptions of organizational employment reputation once per week for a four-week period. The four-week time period has practical significance in the present context. In the college where the study was conducted there is approximately a four week gap between an informal career fair and the time when companies can begin accepting applications for on-campus interviews. Hence, this represents the amount of time that a company could take active efforts to change job seekers' employment reputation perceptions in order to secure an applicant pool. The entire experiment was conducted online, which allowed participants to take the survey at a time they found convenient and which stimulated natural exposure to company information. Random assignment and debriefing questions² increased our confidence that extraneous influences (e.g., additional information about the company) were not systematically related to the dependent measures.

At the commencement of the study, we informed participants that the purpose of the study was to examine their opinions of an organization. In week one, we asked all participants

some basic demographic questions (e.g., gender) and assessed their baseline perceptions (i.e., prior to exposure to the recruitment messages) of MCI WorldCom's employment reputation. In weeks two, three, and four, participants were randomly assigned to one of three sets of recruitment practices: mere exposure, high-information messages from a single source, or high-information messages from multiple sources.

Experimental manipulations

Prior research found that exposure to an organization during a college course was positively related to company image (Gatewood et al., 1993). We therefore expected that having participants evaluate the organization and receive emails each week about the organization would constitute exposure and present difficulties in operationalizing a "pure" control condition. Hence, we made the decision against using a pure control condition that could be confounded with exposure during evaluation. Instead, we explicitly operationalized a low information or mere exposure condition that did not contain detailed messages about the company and the job and essentially provides a control condition. We also want to point out that in our repeated measures design each individual served as his or her own control because the initial (i.e., time one) ratings of the company's employment reputation preceded exposure to any manipulation.

Mere exposure condition. Participants in the mere exposure condition were only exposed to the company name in the form of a logo each week prior to evaluating the organization (see Appendix A for example mere exposure manipulation). This condition did not directly attempt to change the perceptions of MCI WorldCom's reputation and essentially measures baseline perceptions of MCI WorldCom over time. Although not a pure control condition, this represents an appropriate comparison for the other conditions. The mere exposure effect is described as operating unconsciously, acting as a prime where individuals come to evaluate an object more positively based on incidental exposure to the evaluation object (Fang et al., 2007). Hence, Fang and colleagues (2007) called banner ads the ideal

stimuli for studying the mere exposure effect because most viewers pay minimal attention to these stimuli while using the internet. The name “MCI WorldCom” represents the object of evaluation in the present context and is similar to a banner ad in size (468 x 60 pixels), location (i.e., top of the screen), and content (i.e., company name and an image: Appendix A).

Single source high information condition. Participants in the single source condition saw recruitment messages from a corporate recruiter prior to evaluating the organization during weeks two, three, and four (see Appendix B for example high information manipulation). The messages came in the form of an email that was addressed to each participant individually and contained between 16 and 25 lines of text. When crafting the messages, we followed Barber and colleagues’ (1993) suggestion that recruiters use broad messages early in recruitment and then use more focused messages later. The content was adapted from previous published recruitment studies. For example, during week one the messages discussed the organization’s corporate social responsibility efforts (see Turban & Greening, 1997).

Multiple source high information condition. We created a multiple sources high information condition where the recruitment messages and format were identical to the single source messages each week except for a few words used to identify the source. Participants in this condition were exposed to a company advertisement, an email from an alumnus, and an email from a corporate recruiter during weeks two, three, and four respectively. Importantly, a pre-test (N = 75) found that, when assessed in isolation, the first (week two: $M = 3.21$, $SD = 0.81$) and second (week three: $M = 3.61$, $SD = .73$) manipulations used in multiple sources condition did not have different impacts on employment reputation perceptions when compared with the first (week two: $M = 3.12$, $SD = 0.84$, $t_{144} = -0.56$, *ns*) and second (week three: $M = 3.52$, $SD = 0.65$; $t_{73} = -0.56$, *ns*) manipulations used in the single source condition. This is important because it rules out alternative explanations such as differences in source credibility or source attractiveness that could be attributable to a single manipulation and otherwise could

have caused differences in ratings across the conditions. The third manipulations (week four) in the single and multiple sources condition were identical (i.e., identical source and message). Because the content of the messages differed each week, the present study cannot make comparisons of the impact of *source order*; however, using different messages each week is an appropriate operationalization of the multiple sources condition because the goal is to examine whether there is a synergy that occurs across the multiple sources over time

Measures

Demographics. At time one, we included measures for demographics variables. These included age, gender, ethnicity, job search status, and academic major.

Familiarity. Three items used in previous research (Collins & Stevens, 2002) asked participants how much they knew about MCI WorldCom on a five-point scale (1 = A lot about this company, 5 = very little about this company). An example item is “How much do you know about MCI WorldCom in general?” Reliability for the scale was .92.

Employer Reputation Perceptions. We used five items from previous research (Highhouse, Lievens, & Sinar, 2003) to assess participants’ perceptions of the company’s employment reputation each week. Responses were on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). An example item is “This company has a reputation as an excellent employer.” Reliability for the scale across the four time periods ranged from .89 to .92.

Results

Manipulation check.

After students completed all survey we asked them to estimate, on average, how many minutes they spent completing the study each week. We were interested in differences between the high information and mere exposure conditions (rather than the accuracy of their responses) as a proxy for message involvement. As expected, students in the high-information conditions ($M = 9.85$, $SD = 4.78$) reported spending more minutes each week reading the manipulations

and responding to the surveys than participants in the mere exposure condition ($M = 8.53$, $SD = 3.78$; $t = 2.01$, $p < .05$). We also asked participants to report if they had encountered any information about MCI WorldCom outside of the study. We found that 30 students reported encountering additional information about MCI WorldCom over the course of the study, but this did not differ by condition $\chi^2(N = 212, df = 2) = 2.63$, ns , and was unrelated to the dependent variables.

Descriptive Statistics and Data Analytical Method

Table 1 shows the descriptive statistics and correlations among the variables. Notice that job seekers' mean employment reputation perceptions increased from time one through time two ($t_{218} = -10.91$, $p < .01$) and then leveled off between times two and three ($t_{216} = -1.42$, ns) and three and four ($t_{209} = 0.79$, ns). This provides preliminary evidence that participants' employment reputation perceptions changed during the second week of the study.

We used the latent growth curve modeling (LGC) procedures outlined by Chan (1998) to analyze the repeated measures data. LGC was developed to overcome several limitations of repeated measures analysis of variance (RM-ANOVA). Specifically, RM-ANOVA fails to test or correct for violations to several data assumptions including longitudinal measurement invariance, homogeneity of variance over time, and correlated residuals. Further, RM-ANOVA models only group-intercept growth trajectories and not individual intercept trajectories. Hence, Chan noted that "RM-ANOVA is inherently deficient for examining differences in individuals' growth trajectories" (1998; 429).

LGC is an extension of covariance structure analysis that invokes a confirmatory factor analytic structure on variables measured over time. Because LGC uses a structural equation modeling (SEM) approach, the same model fit indices are used to assess model fit. We used the chi-square goodness of fit test, the comparative fit index (CFI; Bentler, 1990), the Tucker-Lewis index (TLI; Tucker & Lewis, 1973), the standardized root mean square residual (SRMR;

Bentler, 1995), and the root mean square error of approximation (RMSEA; Steiger, 1990).

Nested models were compared using the $\Delta\chi^2$ statistic (Bentler & Bonett, 1980). We used M-Plus version 3.11 (Muthen and Muthen, 2004) to conduct all analyses. We discuss each step of the LGC process below and then describe the corresponding analyses (more technical details of LGC analysis are available in Chan, 1998).

Measurement invariance.

Prior to conducting the LGC analyses, we tested the assumption that the same construct was being measured with the same precision across the four time periods and across the three experimental groups (Chan, 1998). We first tested for measurement invariance across time periods with a longitudinal factor analysis using a latent factor for employment reputation perceptions at each of the four time periods (Chan, 1998). Table 2 shows the results of the invariance tests. First we tested a model with no restrictions across groups or time. Next, we found that restricting loadings for like items across the employment reputation factors did not lead to a significant decrement in model fit in the nested model comparisons ($\Delta\chi^2$ tests). This is sufficient evidence for longitudinal measurement invariance (Chan, 1998). We then tested for measurement invariance across the three experimental conditions with a multiple-groups analysis (MGA). Table 2 shows that incorporating the additional constraints across groups for like-item loadings did not produce a significantly-worse fitting model. This provided evidence of measurement invariance across groups.

Measures	M	SD	1	2	3	4	5	6	7
1 Single source	0.32	0.47	--						
2 Multiple sources	0.35	0.48	- 0.51 **	--					
3 Familiarity	2.23	0.64	0.19 **	- 0.12	(.81)				
4 Reputation: time one	2.39	0.85	- 0.01	- 0.02	- 0.00	(.88)			
5 Reputation: time two	3.02	0.86	0.10	0.17 *	- 0.17 *	0.50 **	(.91)		
6 Reputation: time three	3.08	0.87	0.09	0.27 **	- 0.14 *	0.43 **	0.76 **	(.92)	
7 Reputation: time four	3.03	0.84	0.08	0.22 **	- 0.16 *	0.48 **	0.78 **	0.86 **	(.92)

Note. Cronbach alphas appear on the diagonal in parentheses.
 * $p < 0.05$. ** $P < 0.01$.

Model	Constraints	χ^2	<i>df</i>	CFI	TLI	SRMR	RMSEA	$\Delta\chi^2$	Δdf
Model 1	Unconstrained full sample	177.05	134	0.988	0.983	0.030	0.038	--	--
Model 2	Constrained like items loadings: time	185.57	146	0.989	0.986	0.037	0.035	8.51 <i>ns</i>	12
Model 3	Unconstrained multiple groups	641.33	434	0.944	0.926	0.076	0.080	--	--
Model 4	Constrained like item loadings: groups	679.93	466	0.942	0.929	0.086	0.079	38.60 <i>ns</i>	32

Latent Growth Curve (LGC) Model

The first stage of LGC analysis models intra-individual change across time and provides information about the mean trajectories and the within-sample variability in change trajectories. We developed a second-order factor (SOF) latent growth model. The first-order factors (FOFs) were the employment reputation factor for each time period with invariance constraints on loadings for like items. The SOFs represent the latent growth factors—intercept, linear, and quadratic. *Intercept* and *linear* are latent factors that represent individuals' initial employment reputation perceptions and growth in employment reputation perceptions across the four weeks respectively. The loadings from the latent growth factors to the FOFs determine the growth trajectories. Fixing the loadings from intercept to each of the four employment reputation factors at "1" forces the intercept to represent individuals' perceptions of MCI WorldCom's employment reputation at the beginning of the study. Fixing the loadings for the linear factor to 0, 1, 2, 3, for the first through fourth measurement periods respectively fits a linear growth trajectory to the data.

With four or more measurement periods, researchers can also test for non-linear growth trajectories by including additional latent growth factors. For instance, a quadratic growth trajectory incorporates intercept, linear, and quadratic growth factors. Loadings for the *quadratic* factor are set to 0, 1, 4, 9 for the first through fourth time periods. Researchers can also specify a "no-growth" model—where employment reputation perceptions do not change over time—by only including an intercept factor. To understand the nature of individual change in the sample, we conducted nested model comparisons for no-growth, linear, and quadratic trajectories. For all models, we specified autocorrelated errors for like items over time because employment reputation perceptions at each time period were not independent of employment reputation perceptions at other time periods. For each model we also compared homogeneous (i.e., constant across time) and heterogeneous (i.e., freely estimated) error specifications for the

factor variances across time (Singer & Willet, 2003). Table 3 presents the results of these comparisons.

Table 3 shows the results of tests of alternative specifications of univariate SOF growth trajectories for the sample. As shown in Table 3, all models specifying heteroscedastic error structures fit better than models with homoscedastic error structures. Further, the linear growth models produced a significantly better fit to the data better than the no-growth models.

However, as Table 3 shows, the quadratic trajectory with a heteroscedastic error structure (Model 9) produced the best fit to the data $\chi^2(154, N = 222) = 298.91, p < .01, CFI = 0.961, TLI = 0.951, SRMR = 0.109, RMSEA = 0.065$.

The parameter estimates (factor means, variances, and covariances) from the best-fitting model (Model 9) provide an explanation of participants' growth trajectories for the sample. Because all employment reputation measures were five-point Likert scales where greater scores indicate more-favorable employment reputation perceptions, the intercept factor mean ($\mu = 2.38, EST/SE = 40.70, p < .001$) suggests that participants generally began the study with unfavorable perceptions of MCI WorldCom. However, participants across the sample varied in their initial employment reputation perceptions ($\sigma^2 = 0.40, EST/SE = 3.85, p < .01$).

The linear factor mean was positive and significant ($\mu = 0.65, EST/SE = 10.29, p < .001$), suggesting that participants' perceptions of MCI WorldCom became more favorable over the course of the study. Substantially, these results suggest that on average, participants moved from unfavorable employment reputation perceptions to roughly "neutral" (i.e., near "three" on the five-point scales) employment reputation perceptions after four weeks. Significant variation around the linear factor ($\sigma^2 = 0.31, EST/SE = 2.50, p < .05$) suggests meaningful individual differences in total change over time.

Table 3
Univariate Second-Order Factor Latent Growth Curves: Tests of Alternative Specifications

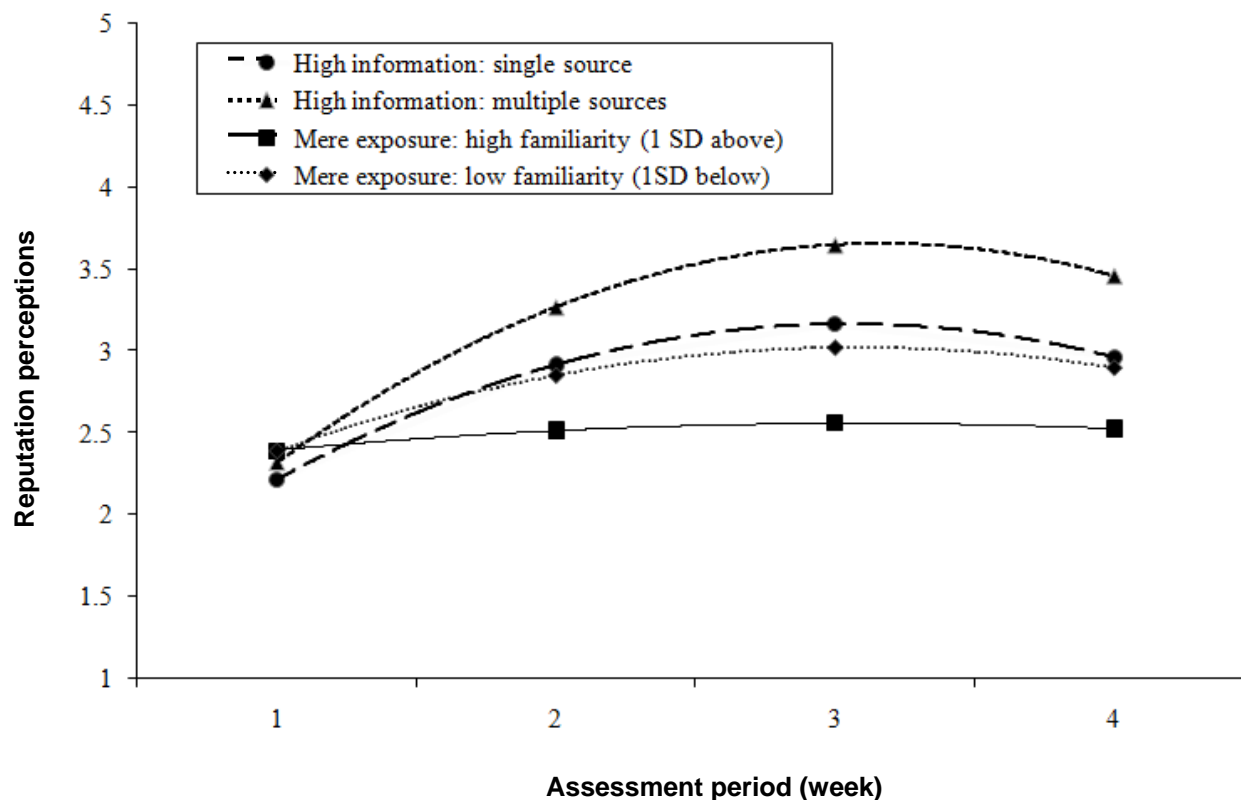
Model	Change-function	Residuals structure	χ^2	df	CFI	TLI	SRMR	RMSEA	$\Delta\chi^2$	Δdf
Model 5	No growth	Heteroscedastic	468.40	161	0.916	0.901	0.195	0.093		
Model 6	No growth	Homoscedastic	624.06	163	0.875	0.854	0.18	0.113		
Model 7	Linear	Heteroscedastic	393.70	158	0.936	0.923	0.124	0.082		
Model 8	Linear	Homoscedastic	439.35	160	0.924	0.910	0.138	0.089		
Model 9	Quadratic	Heteroscedastic	298.91	154	0.961	0.951	0.109	0.065		
Model 10	Quadratic	Homoscedastic	309.19	156	0.958	0.949	0.111	0.067		
Model 5 vs. Model 6									155.66 ***	2
Model 5 vs. Model 7									74.70 ***	3
Model 5 vs. Model 9									169.49 ***	7
Model 6 vs. Model 8									184.71 ***	3
Model 6 vs. Model 9									325.15 ***	9
Model 7 vs. Model 9									94.79 ***	4
Model 8 vs. Model 10									130.16 ***	4
Model 9 vs. Model 10									10.28 **	2

Note. *** $p < .001$, ** $p < .01$.

The quadratic factor mean was also significant but was negative ($\mu = -0.15$, $EST/SE = -8.74$, $p < .001$), suggesting a decelerating growth trajectory across the four weeks (Figure 1). We also found significant variation around the quadratic factor ($\sigma^2 = 0.02$, $EST/SE = 2.14$, $p < .05$), suggesting meaningful individual-level variation in participants' rates of deceleration. The covariance between the linear and quadratic factors was negative and significant ($r = -0.07$, $EST/SE = -2.29$, $p < .05$), suggesting greater deceleration over time for those participants experiencing greater overall employment reputation change. The covariances between the intercept and linear factors ($r = -0.07$, $EST/SE = -0.65$, *ns*) and intercept and quadratic factors ($r = 0.02$, $EST/SE = 0.67$, *ns*) were not significant.

Substantively, this model suggests several important points about the nature of individuals' employment reputation change over time. First, this model shows that individuals' employment reputation change trajectories followed a negative quadratic, or "diminishing returns," trajectory (see Figure 1). Second, we found a significant relationship between individuals' total growth (i.e., linear) and deceleration (i.e., quadratic) over time. This suggests that individuals who experienced greater total gains across time tended to reach those gains quickly and then changed little after that. A non-significant covariance between the intercept and linear factors suggests that participants with more negative perceptions did not change their employment reputations less over time (i.e., were not more resistant to change), as might be expected based on prior research. Perhaps most importantly theoretically and practically, we found significant variation around all three growth factors, suggesting meaningful individual differences in participants' 1) baseline employment reputation perceptions, 2) total change in employment reputation perception over time, and 3) rate of employment reputation change over time.

Figure 1
Growth trajectories for participants' reputation perceptions across three experimental conditions and interaction with familiarity



Multiple-Groups Analyses (MGA)

After we developed a satisfactory SOF LGC model, the second stage of LGC analysis introduced additional variables in order to model inter-individual differences in change trajectories and test our hypotheses. Following the procedures outlined by Chan (1998), we conducted a multiple groups analysis (MGA) that included familiarity as a covariate to examine differences in the change trajectories across the three experimental conditions.

We tested for latent mean differences at the group level by sequentially imposing constraints across groups and examining the $\Delta\chi^2$ statistic. The MGA with only the measurement invariance constraints mentioned earlier had adequate model fit $\chi^2(75, N = 222) = 1194.127$,

CFI = 0.934, TLI = 0.927, RMSEA = 0.062, SRMR = 0.091. Constraining the intercept latent means (i.e., initial status) as equivalent across all three experimental conditions did not lead to a decrement in model fit ($\Delta\chi^2 = 1.01$, $\Delta df = 2$, *ns*), suggesting that the random assignment was successful and participants across all groups began with similar baseline perceptions of MCI WorldCom's employment reputation ($\mu = 2.39$).

Hypothesis 1 predicted that participants in the high information conditions would change their employment reputation perceptions more than participants in the mere exposure condition. We tested for differences in the latent linear factor means for the mere exposure group and both the single and multiple source groups to directly test Hypothesis 1. Group differences in the latent linear means would suggest group differences in total growth across time periods. Participants in the mere exposure condition ($\mu = 0.38$) showed less linear growth than participants in the single source condition ($\mu = 1.01$; $\Delta\chi^2 = 13.07$, $\Delta df = 1$, $p < .001$). Further, participants in the low information condition had a lower linear mean than participants in the multiple sources condition ($\mu = 1.23$; $\Delta\chi^2 = 38.94$, $\Delta df = 1$, $p < .001$). This provides full support for Hypothesis 1.

Although participants in the mere exposure condition reported less total change in employment reputation perceptions than the other two conditions, differences in the quadratic factor mean would suggest differences in deceleration in growth over time. We tested for differences in quadratic factor means between the mere exposure condition and the two high-information conditions. Participants in the mere exposure condition ($\mu = -0.09$) had a less-negative (i.e., less decelerating) quadratic factor means than participants in the single source ($\mu = -.22$; $\Delta\chi^2 = 7.76$, $\Delta df = 1$, $p < .001$) and multiple source ($\mu = -0.28$; $\Delta\chi^2 = 30.20$, $\Delta df = 1$, $p < .001$) conditions. This suggests that participants in the mere exposure condition had more gradual or incremental growth compared to participants in the high information conditions, who reported more strongly decreasing rates of growth over time (Figure 1).

Hypothesis 2 predicted that participants in the multiple source condition would report greater employment reputation change than participants in the single source condition. We constrained the trend factors as equal across the two conditions and found that participants in the multiple sources condition ($\mu = 1.23$) had marginally greater linear growth than participants in the single source condition ($\mu = 1.09$; $\Delta\chi^2 = 3.37$, $\Delta df = 1$, $p < .07$). This partially supports Hypothesis 2. Participants who were exposed to recruitment messages from multiple sources experienced marginally greater total employment reputation change than participants exposed to messages from a single source (Figure 1). We found no differences in the quadratic factor means across the single ($\mu = -0.22$) and multiple sources ($\mu = -0.28$) conditions ($\Delta\chi^2 = 0.37$, $\Delta df = 1$, *ns*).

Hypothesis 3 predicted that familiarity would be negatively related to employment reputation change. To test Hypothesis 3 we first examined the structural effect from the familiarity factor to the linear growth factor in each group. In the mere exposure condition, we found that GPA was negatively related to the trend factor ($\beta = -0.37$, $EST/SE = -2.49$, $p < .01$). This suggests that, in the mere exposure condition, participants who were more familiar with MCI WorldCom experienced less total employment reputation change than participants who were less familiar. Participants' familiarity with MCI WorldCom was also related to the quadratic factor in the mere exposure condition ($\beta = 0.09$, $EST/SE = 2.14$, $p < .05$), suggesting participants who were more familiar with MCI WorldCom also showed a more sharply decelerating trajectory over time than less familiar participants. However, participant familiarity did not predict the linear growth trajectories in the single source ($\beta = -0.22$, $EST/SE = 1.05$) and multiple source ($\beta = -0.10$, $EST/SE = .751$) conditions. Familiarity also was not related to the quadratic factor for the single source ($\beta = 0.06$, $EST/SE = .95$, *ns*), or multiple sources ($\beta = 0.03$, $EST/SE = 0.97$, *ns*) conditions, suggesting familiarity was unrelated to the rate of deceleration in participants' trajectories. Thus, we found partial support for Hypothesis 3.

Discussion

Our study addressed the important question of whether a negative employment reputation is malleable (Barber, 1998; Cable & Turban, 2001; Collins & Stevens, 2002; Ployhart, 2006). We conducted an experimental study over a four-week period where we measured participants' employment reputation perceptions before and after exposure to one of three sets of recruitment messages. Participants encountered messages in the form of either 1) a mere exposure to the organization (i.e., mere exposure to the company's logo), 2) multiple endorsements from a single source (i.e., a corporate recruiter), or 3) multiple endorsements from multiple sources (i.e., a company advertisement, an alumnus, and a corporate recruiter). We also assessed participants' familiarity with the organization and assessed its relation to reputation change over time.

Key Findings and Theoretical and Practical Implications

Changing negative employment reputation perceptions

Our study produced several findings that are important to recruitment theory and practice. First, we found that participants' employment reputation perceptions became more positive over the course of the study for all three recruitment strategies. To illustrate the substantive meaning of the extent of the employment reputation change in the present study, it is informative to examine the frequency of individuals who reported a mean of "two" or lower (i.e., disagree or strongly disagree with statements such as "this is a reputable company to work for") or a mean of "four" or higher (agree or strongly agree with same statements) on the five-point Likert scales measuring employment reputation perceptions. At the beginning of the study, 108 individuals reported a mean of "two" or less on the scales measuring employment reputation perceptions; only 13 students reported a "four" or higher. This tentatively suggests that over half of the participants rated the company "unfavorably" at the start of the study. However, at the end of our study, only 13 individuals reported a "two" or less; 36 reported a

“four” or higher. This illustrates that the company’s unfavorable employment reputation diminished over the four weeks and numerous participants adopted a favorable view of the company’s employment reputation. Given that employment reputation perceptions have been consistently linked to application decisions in previous research (Collins, 2007), these results are encouraging for companies with negative employment reputations and suggest that they can use repeated recruitment messages to alter applicants’ employment reputation perceptions.

High information recruitment practices and mere exposure

Second, we found that some recruitment advertising strategies were more effective than others for changing negative employment reputation perceptions (Figure 1). As expected, we found that practices containing high information and that were more involving (i.e., multiple endorsements from both a single source and multiple sources) were better than a mere exposure strategy. Further, we found evidence that multiple sources of information (i.e., a university alumnus, a company advertisement, and a corporate recruiter) had a greater impact on employment reputation change than a single source (i.e., a corporate recruiter) when delivering the exact same information. This is consistent with the view that each additional message source provides cognitive stimulation beyond the message alone (Harkins & Petty, 1987).

Familiarity and reputation change

Third, we found that applicant familiarity with the organization was negatively related to employment reputation change in the mere exposure condition (Figure 1). For applicants exposed to mere exposure practices, those who were more familiar with the organization changed their perceptions of employment reputation less than applicants who were less familiar with the organization. However, our results failed to find the expected negative relationship between applicant familiarity and reputation change in either of the high information conditions. One possible explanation for this non-supportive finding is that the potentially inexperienced

student sample may have been unfamiliar with the company which attenuated the expected negative relationship. Future research using a population of more familiar job seekers may show support for our predictions. However, our findings present some positive news for companies because it suggests that 1) high information recruitment practices may effectively change employment reputation beliefs for college-level applicants regardless of their familiarity with the organization and 2) organizations may save money by using mere exposure practices for those applicants who are less familiar with the organization (see Figure 1). On the other hand, mere exposure recruitment practices were almost completely ineffective for applicants who were more familiar with the organization (i.e., one standard deviation above the sample mean for familiarity: see Figure 1). Hence, companies with negative employment reputations that are familiar to applicants must devote the necessary resources to high information recruitment practices. However, when applicants were unfamiliar with the organization (i.e., one standard deviation below the sample mean for familiarity), the mere exposure strategy appeared to be nearly as effective as a high-information single source recruitment practice (Figure 1).

Reputation trajectories

By examining the shape of reputation change trajectories over time, the present research engages an important but neglected topic in the employment reputation literature. We found that participants' employment reputation perceptions took on negative quadratic shape. This is important because it suggests a simple linear relationship does not capture the relationship between number of recruitment practices and reputation change over time. Participants in the high information conditions had trajectories that decelerated more sharply than participants in the mere exposure condition. Inspection of Figure 1 shows that participants appeared to be satiated with exposure to multiple high-information recruitment messages during the third week of the study. This finding is consistent with the marketing literature which suggests that repeated high involvement messages take on an inverted-U (i.e., quadratic)

trajectory, as the number of positive cognitions decreases and the number of negative cognitions increases with repeated exposures (Nordheim, 2002). While the specific growth trajectories shown in Figure 1 are limited to our experimental context, the results suggest that organizations should be aware of the point where additional high-information recruitment interventions no longer help a company's employment reputation but may actually hurt the company's employment reputation. This suggests a different perspective for looking at recruitment practices—namely, the decision to use a specific recruitment practice depends on the individuals' position on his or her reputation change trajectory. Future research is needed to understand how combinations of recruitment practices influence growth trajectories.

Participants who were exposed to mere exposure messages exhibited steadier increases in reputation perceptions over time (i.e., lower quadratic factor mean) than participants in the high information conditions. This is consistent with prior research that showed repeated mere exposure or low involvement advertising strategies lead to more incremental changes in reputation over time because they work by increasing processing fluency, which occurs on a subconscious level, and hence are less susceptible than high information practices to “wear out” effects (Nordheim, 2002). For example, Fang and colleagues (2007) found that even after 20 exposures to banner ads in their study, participants' attitudes were still increasing, albeit incrementally. Hence, over-exposure due to incidental exposure may pose less risk to a company's reputation than over-exposure to high information practices.

Limitations and Future Research Directions

Our study is the first to test 1) whether a negative employment reputation is malleable and 2) the influences of individual difference factors and recruitment message combinations on reputation trajectories. However, as with most research, our study has several limitations. First, we used a sample of college students to test our hypotheses which may limit the generalizability of our results. College students are generally new labor-market entrants and less familiar than

other populations such as more experienced or employed job seekers. Future research could examine employment reputation change using other samples of job seekers. However, given that this is, to our knowledge, the first study of employment reputation change over time, the controlled setting of a college environment was important for providing a rigorous test of the theoretical propositions. Given that our sample may have been less familiar with the organization than other populations such as more experienced job seekers, studies using other samples may find greater support for our proposed negative relationship between familiarity and reputation change.

Second, we assessed participants' opinions of a single organization in a single industry. It is possible that other companies with negative employment reputations in certain industries (e.g., tobacco) are more difficult to change. Future research should extend these results to other organizations in other industries. Third, we used only a small subset of all possible information sources, message arguments, and ordering for sources and messages in our study. However, our use of a single organization and a limited number of pre-tested sources and arguments in the study design provides an ideal setting for a preliminary examination of this type because of the ability to control for extraneous variables and to effectively test the "can it happen" question (Ilgen, 1986). Still, future research could assess how different sources (e.g., university professors, face to face communications), different message arguments, and different source orderings could influence job seekers' employment reputation perceptions. Also, we assessed employment reputation perceptions once per week over a four week period. This time frame had practical significance in the context of students in our sample, yet future research might test different time intervals of practical or theoretical significance.

Conclusion

One of the most important ways organizations can attract applicants is through a favorable organizational employment reputation (Rynes & Cable, 2003). An unfavorable employment reputation can hurt an organization's ability to attract talent, yet to our knowledge, the present study was the first study to directly attempt to change a company's existing employment reputation. We found evidence that job seekers' employment reputation beliefs are malleable over time through active recruitment efforts. Also, our results suggest that, compared to a mere exposure strategy, high-information practices (i.e., multiple arguments from both single and multiple source endorsers) have a larger impact on employment reputation change over time. Further, it appears that endorsements from multiple sources are marginally more effective than endorsements from a single source for changing employment reputation perceptions. Finally, applicants' familiarity with the organization was negatively related to employment reputation change, but only for those participants exposed to low-information practices.

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Footnotes

¹ Details of this pre-test are available from first author upon request.

²86% of participants reported they did not “encounter any additional information about the company”. Groups did not differ in the number of participants encountering extra information about the company, $\chi^2(2, N = 212) = 2.63, ns$. However, we included this debriefing measure as a covariate in the multiple-groups analysis to be conservative.

Appendix A

Example manipulation: Mere exposure



Appendix B

Example manipulation: High information

Please read the following information about MCI WorldCom.

Current Folder: INBOX	Sign Out
Compose Addresses Folders Options Search Help	
<p>Subject: Job opportunities at MCI WorldCom From: campus.recruitment@mciworldcom.com Date: Thu, December 8, 2005 11:29 AM To: "test user" <test_user@cornell.edu> Priority: Normal Options: View Full Header View Printable Version View Message details</p>	
<p>Hello, as a recruiter at MCI WorldCom, I would like to tell you a little bit about what makes our company unique. Today, MCI WorldCom's focus is clear - to use our global network and expertise to deliver innovative products that provide simplicity and unsurpassed value to our customers. With millions of business and residential customers, MCI WorldCom is a leader in serving global businesses, government offices, and U.S. residential customers. MCI WorldCom delivers a comprehensive portfolio of local-to-global business data, Internet and voice services to a 'Who's Who' list of the Fortune 1000. MCI today owns and operates some of the world's most complex and sophisticated custom networks, delivering value for a wide variety of customers and more than 75 U.S. federal government agencies. We also are a premier provider of audio, video, and net conferencing services that enable customers to meet and collaborate remotely to effectively conduct business anywhere, anytime.</p> <p>MCI WorldCom is the United States' second largest long distance company for residential customers. In April 2002, MCI launched The Neighborhood built by MCI WorldCom, the industry's first truly any-distance, all-inclusive offering combining local and nationwide long distance calling from home to consumers for one low monthly price. The Neighborhood continues MCI's pioneering tradition, which has been based on opening up monopoly markets and providing innovative services to consumers nationwide.</p> <p>Additionally, our company is committed to being a good corporate citizen nationally, regionally and especially in the communities where we have offices. Our efforts have provided innumerable benefits including literacy education, scholarships, chemical dependency rehabilitation, healthcare, civil rights support, environmental conservation, housing, and support for public radio, television, libraries and museums. Our corporate philosophy is to build not just better products, but better communities. Further, at MCI WorldCom we believe commitment to environmental stewardship is great for business and the world around us. We're proud of our products and our accomplishments in seeking balance between production and preservation of our ecosystems. We're proud of our land conservation programs, and the recognition we've received from a broad range of respected organizations.</p> <p style="text-align: center;">Download this as a file</p>	