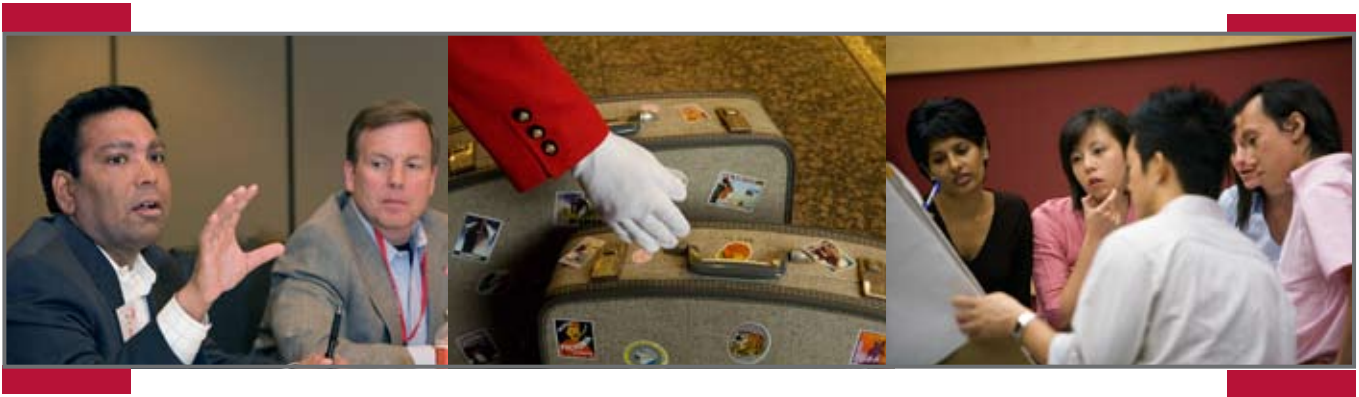


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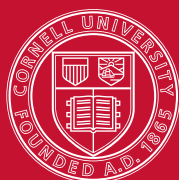


## Cornell Hospitality Report

Restoring Workplace Communication Networks after Downsizing:  
The Effects of Time on Information Flow and Turnover Intentions

*by Alex Susskind, Ph.D.*

Vol. 8, No. 2, January 2008



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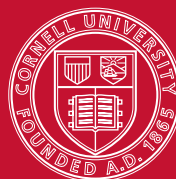
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# Restoring Workplace Communication Networks after Downsizing:

The Effects of Time on  
Information Flow and Turnover Intentions

by Alex M. Susskind

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## ABOUT THE AUTHOR



**Alex M. Susskind**, Ph.D., is an associate professor at the Cornell University School of Hotel Administration and a member of the Graduate Field of Communication at Cornell University (ams76@cornell.edu). With a Ph.D. focusing on organizational communication and organizational behavior and an MBA with a concentration in personnel and human relations, Susskind's research is based primarily in organizational communication and organizational behavior. He is currently researching: **(a)** the influence of customer–service provider interaction as it relates to organizational effectiveness and efficiency from the perspective of guests, employees, and managers; and **(b)** the influence of communication relationships upon individuals' work-related attitudes and perceptions surrounding organizational events and processes such as teamwork and downsizing. His experience in the restaurant industry includes a degree from the Culinary Institute of America.

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## EXECUTIVE SUMMARY

One of the effects of a corporate layoff is the interruption of communication networks for employees who remain in the workplace. Since information that passes along these informal networks is part of the lifeblood of any workplace, remaining employees struggle to reestablish network connections after a layoff is completed. Access to information and their status as a central point in a network are key elements in workers' satisfaction with their work situation, and as such have a strong influence on turnover intentions. This study measured pre- and post-downsizing information flow and post-downsizing turnover intentions of downsizing survivors in the corporate office of an international hotel company. Using a combination of network analysis and path analysis, the study examined the relationship between changes in downsizing survivors' betweenness centrality (that is, the extent to which information transmits through them) and perceptions of information adequacy relative to reported turnover intentions at two months after the layoffs and at four months. The study found that an increase in network members' centrality augmented their perceptions of information adequacy, which in turn reduced their turnover intentions. The study also found that turnover intentions diminished at some point between two and four months after the layoff, in conjunction with stabilization of the communication network. While the study's population is relatively small (97 individuals), the implications are clear that managers should consider ways to assist remaining employees establish communication pathways after a corporate downsizing. A longer and more technical version of this report is published as "Downsizing Survivors' Communication Networks and Reactions: An Examination of Information Adequacy and Turnover Intentions," in *Communication Research*, Vol. 34, No. 2 (2007), pp. 156–184.



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**T**he hospitality industry is in constant flux, as lean years alternate with boom times and companies merge or divest product lines. Hotel and restaurant companies typically face continual challenges in their operating environment, such as increasing competition, shrinking market share, increasing operating expenses, shrinking profit margins, shareholder activism, hostile takeovers, buyouts, and acquisitions. One inevitable result of such turbulence is corporate downsizing.

In the restaurant sector alone during the past year, for example, we have seen several industry giants transformed or acquired. Outback Steakhouse was purchased by a private equity firm and is now privately held. Applebee's was purchased by IHOP; Rare Hospitality was purchased by Darden; Darden sold its Smokey Bones restaurants after shuttering more than 30 locations; and Brinker sold its Corner Bakery brand and is looking to sell Romano's Macaroni Grill. These are just a few examples of the changes that are taking place throughout the industry.

Regardless of the reason for changes, companies tend to consolidate their existing resources when changes occur, including making reductions to their workforce. As organizations make such reductions, employees who survive the downsizing must deal with changes in work processes and communication patterns.

Those who have observed or experienced organizational downsizing know that it is a disruptive process that affects the communication patterns, perceptions, and attitudes of remaining employees.<sup>1</sup> Among the changes that downsizing survivors are likely to face are the loss of ties to information sources and the loss of direct and indirect links to individuals with power and influence in the employee network. While existing studies provide valuable insights into the effects of downsizing on individuals' attitudes, little research examines downsizing's influence on remaining employees over time.<sup>2</sup> A lack of attention to downsizing's long-term effects is particularly surprising given that: (a) communication network reconfigurations are likely to have considerable impact on organizational power and influence structures, work processes, and employee attitudes;<sup>3</sup> and (b) it is unclear how employees and managers cope with and rebuild lost communication linkages.

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<sup>1</sup> J. Brockner, "The Effects of Work Layoffs on Survivors: Research, Theory, and Practice," *Research in Organizational Behavior*, Vol. 10 (1988), pp. 213-255; J. Brockner, B. Wiesenfeld, J. Stephan, R. Hurley, S. Grover, T. Reed, R.L. DeWitt, and C. Martin, "The Effects on Layoff Survivors of their Fellow Survivors' Reactions," *Journal of Applied Social Psychology*, Vol. 27 (1997), pp. 835-863; and P.P. Shah, "Network Deconstruction: The Structural Implications of Downsizing," *Academy of Management Journal*, Vol. 43 (2000), pp. 101-112.

<sup>2</sup> S.W.J. Kozlowski, G.T. Chao, E. Smith, and J. Hedlund, "Organizational Downsizing: Strategies, Interventions, and Research Implications," in *International Review of Industrial and Organizational Psychology*, ed. C.L. Cooper and I.T. Robertson (New York: Wiley, 1993), pp. 264-322; and A.K. Mishra and G.M. Spreitzer, "Explaining How Survivors Respond to Downsizing: The Roles of Trust, Empowerment, Justice, and Work Redesign," *Academy of Management Review*, Vol. 23 (1998), pp. 567-588.

<sup>3</sup> D.J. Brass and M.E. Burkhardt, "Potential Power and Use: An Investigation of Structure and Behavior," *Academy of Management Journal*, Vol. 36 (1993), pp. 441-470.

In this paper I suggest that downsizing survivors' perceptions of information adequacy are specifically influenced by changes in network centrality. I also propose that changes to perceived information adequacy influence these employees' desire to remain employed with the company. To assess these propositions, I first discuss organizational change and downsizing. Next, I propose ways in which downsizing is likely to influence communication networks—in particular, network centrality. I'll define centrality more completely in the context of the discussion below, but the essence of centrality is how firmly connected an individual is to the organization's network, in terms of tightness, number of connections, and control over information flow. Finally, I present a discussion of network centrality and its likely relationship to downsizing survivors' perceptions of information adequacy and how turnover intentions are influenced by changes in information flow during a layoff or reorganization.

When employees are dismissed from a work environment, the characterization of those layoffs by remaining employees may depend on their gain or loss of connections to network resources they view as valuable.<sup>4</sup> Generally, however, remaining employees view downsizing in a negative light.<sup>5</sup>

## Communication Networks and Downsizing

While organizations typically divide their members into formal departments or functional groups, those divisions often don't apply to the informal communication links that exist within and between formal work groups.<sup>6</sup> As noted by Shah, employees maintain task and social relationships with each other, thus constituting the organization's network. The friendship ties interrupted by downsizing may not be replaced quickly and their loss diminishes morale. Furthermore, Shah reported differing effects on friendship networks and advice networks six months following a downsizing. Friendship network centrality decreased, she found, and

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<sup>4</sup> Shah, *op.cit.*; and A.M. Susskind, V.D. Miller, and J.D. Johnson, "Downsizing and Structural Holes: Their Impact on Layoff Survivors' Perceptions of Organizational Chaos and Openness to Change," *Communication Research*, Vol. 25 (1998), pp. 30-65.

<sup>5</sup> J. Brockner, B.M. Weisenfeld, T. Reed, S. Grover, and C. Martin, "Interactive Effect of Job Content and Context on the Reactions of Layoff Survivors," *Journal of Personality and Social Psychology*, Vol. 64 (1993), pp. 187-197.

<sup>6</sup> R.L. Hartman and J.D. Johnson, "Formal and Informal Group Communication Structures: An Examination of Their Relationship to Role Ambiguity," *Social Networks*, Vol. 12 (1990), pp. 127-151; and J.M. Podolny and J.N. Baron, "Resources and Relationships: Social Networks and Mobility in the Workplace," *American Sociological Review*, Vol. 62 (1997), pp. 673-693.

## After a downsizing the organization's communication network fluctuates, and remaining employees revise their communications to accommodate changed linkages.

advice network centrality increased.<sup>7</sup> These findings suggest that employees' adjustments to a new network are, in part, tied to the organization's behavior following a downsizing, and it is likely that both the flow and effectiveness of communication influence remaining employees' perceptions and attitudes.<sup>8</sup> Given the current knowledge of downsizing and communication networks it is reasonable to state that after a downsizing the organization's communication network fluctuates as some members are removed and remaining employees adjust to their new circumstances. Individuals will need to revise their communication and interaction to accommodate the loss or addition of communication linkages,<sup>9</sup> eventually developing a reconfigured network.

The model presented in Exhibit 1 depicts how changes in information flow and employees' perceptions of information adequacy during a layoff influence survivors' turnover intentions as time goes by. In the model the vertical arrows characterize the proposed relationships among changes in centrality, changes in perceptions of information adequacy, and turnover intention at the first post-downsizing period (first column) and at the second post-downsizing period (second column). As I explain in greater detail below, although the centrality and information adequacy measurements are change scores (from one period to another) the turnover intentions are not change scores. Instead, turnover figures are measures of that variable at each time (that is, at two months and four months after the downsizing). Finally, the horizontal arrows depict the anticipated autocorrelation among centrality, information adequacy, and turnover intentions.

### Network Centrality

Centrality, as presented by Freeman, can be described in terms of: (a) degree, or the number or percentage of individuals a network member is connected to, (b) closeness, or the reach an individual has in a network based on the minimum

distance it takes for a member to contact all other members in the network, and (c) "betweenness," which is the extent to which a network member mediates other network relationships and controls the flow of information in a network.<sup>10</sup>

Although the three types of centrality overlap to some extent, each type captures slightly different relationships and network outcomes.<sup>11</sup> As employees are removed from the network and existing relationships are reconfigured, an individual's centrality changes. Not everyone loses centrality, however, and some employees' centrality will increase (while others' decreases) depending on how their specific contacts are affected by the downsizing. While changes to downsizing survivors' number of network connections (degree centrality) and the distance between those connections (closeness centrality) are not trivial, changes to network members' betweenness centrality seem to be more directly related to perceptions of information adequacy than either degree or closeness centrality because of the role betweenness plays in information flow and control. As betweenness centrality changes for a particular network member, the amount of information that the individual controls changes as well. This is consistent with the proposition that direct, unmediated connections to others in a network tend to reduce tension and pressure, particularly for the gatekeepers of information in the network.<sup>12</sup> Additionally, betweenness centrality is often considered the strongest measure of network involvement, since high levels of betweenness centrality are associated with a person's being a broker of information and

<sup>7</sup> Shah, *op.cit.*

<sup>8</sup> G. Caplan and M. Teese, *Survivors: How to Keep Your Best People on Board after Downsizing* (Palo Alto, CA: Davies-Black, 1997).

<sup>9</sup> Shah, *op.cit.*; and Susskind, *et al.*, *op.cit.*

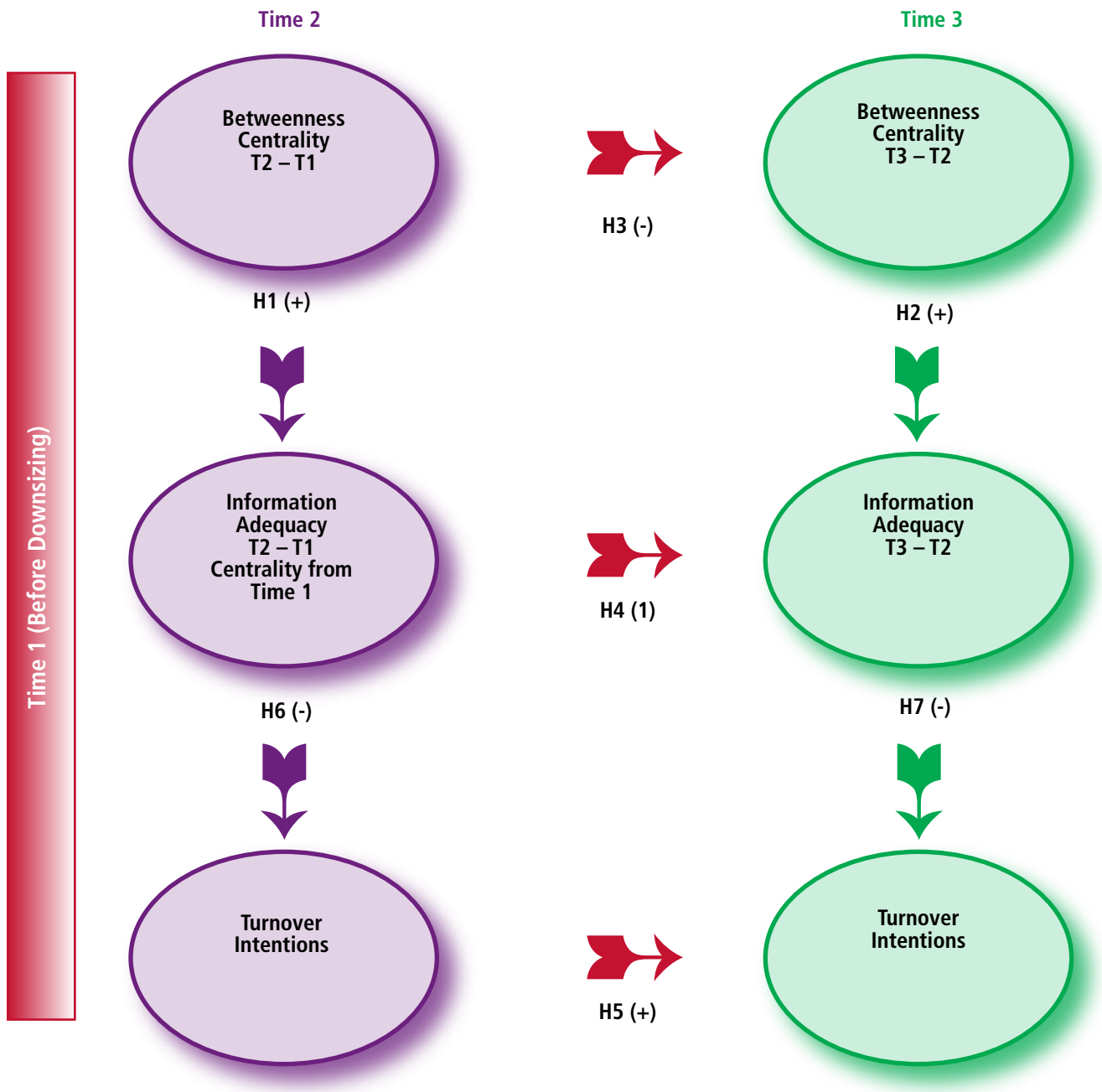
<sup>10</sup> L.C. Freeman, "Centrality in Social Networks: Conceptual Clarification," *Social Networks*, Vol. 2 (1979), pp. 215-239.

<sup>11</sup> T.H. Feeley, "Testing a Communication Network Model of Employee Turnover Based on Centrality," *Journal of Applied Communication Research*, Vol. 23 (2000), pp. 370-387; and B. Mullen, C. Johnson, and E. Salas, "Effects of Communication Structure: Components of Positional Centrality," *Social Networks*, Vol. 3 (1991), pp. 169-186.

<sup>12</sup> T.T. Baldwin, M.D. Bedell and J.L. Johnson, "The Social Fabric of a Team-based MBA Program: Network Effects on Student Satisfaction and Performance," *Academy of Management Journal*, Vol. 40 (1997), pp. 1369-1397; D. Krackhardt, "The Strength of Strong Ties: The Importance of Philos in Organizations, in *Networks and Organizations*, ed. N. Nohria and R.G. Eccles (Boston: Harvard Business School Press, 1992), pp. 216-239.



Proposed longitudinal model of network centrality, information adequacy, and turnover intentions



Hypotheses (H1–H7) are explained on following pages.

relationships.<sup>13</sup> This seems particularly important after a lay-off, when uncertainty is coupled with a need for work-related information. Therefore, the outcome of changes in betweenness centrality depends on changes in individuals' control of information and volume of contact.<sup>14</sup>

### Information Adequacy

Regardless of hierarchical level, workers require information to perform their work-related duties. The perception that they are not receiving sufficient information can diminish employees' willingness to participate in organizational change or personal development.<sup>15</sup> A need for information under conditions of organizational change has been shown to be influenced by both contextual and individual factors. Contextual issues include ambiguity or performance pressure relative to the new organizational structure, while individual factors might be a tolerance for uncertainty or a need for control.<sup>16</sup> Although perceptions of information adequacy vary among layoff survivors, downsizing affects the network's betweenness centrality and information flow and likely causes shifts in survivors' perceptions of work-related information adequacy.

Information sources in the post-downsizing network can be classified relative to source expertise and accessibility.<sup>17</sup> Highly central network members are likely to be the most accessible, but the value that they bring to the network and their ability to broker information after a layoff may be considerably altered. Members losing network centrality are likely to

report decreases in their perceptions of information adequacy and be more aware of information gaps and resource losses brought about by the downsizing. They may need to spend considerable time restoring lost connections in their networks and building trust before their perceptions of information adequacy are restored.<sup>18</sup> Likewise, downsizing survivors may acquire a better network position following the downsizing and find access to and control of information that were not available to them before the downsizing. Therefore, I propose that a positive relationship exists between changes in centrality and changes in perceptions of information adequacy.

*Hypothesis 1:* Changes in betweenness centrality are positively related to changes in information adequacy from the pre-downsizing period to the first post-downsizing period.

*Hypothesis 2:* Changes in betweenness centrality are positively related to changes in information adequacy from the first post-downsizing period to the second period.

While the propositions regarding how changes in betweenness centrality are related to changes in information adequacy over time seem straightforward, the expected autocorrelation between changes in centrality and changes in information are less so. Individuals who experience changes in centrality and information adequacy from the pre-downsizing period to the first post-downsizing period—as either gains or losses—are less likely to experience similar shifts in subsequent periods as they adapt to the new network.<sup>19</sup> The reason that these gains in centrality are not repeated between the first post-downsizing measurement and second period is that the initial downsizing reconfiguration has improved these employees' position in the network, or at least increased their access to or control of information. By contrast, those who report losses in centrality in the first post-downsizing period will most likely need to make adjustments to their network in sub-

<sup>13</sup> Krackhardt, *op.cit.*; and Mullen *et al.*, *op. cit.*

<sup>14</sup> Susskind *et al.*, *op.cit.*

<sup>15</sup> M. Casey, V.D. Miller, and J.R. Johnson, "Survivors' Information Seeking Following a Reduction in Workforce," *Communication Research*, Vol. 24 (1997), pp. 755-781; J.R. Johnson, M.J. Bernhagen, V.D. Miller, and M. Allen, "The Role of Communication in Managing Reductions in Workforce," *Journal of Applied Communication Research*, Vol. 24 (1996), pp. 165-180; and V.D. Miller, J.R. Johnson, and J. Grau, "Antecedents of Willingness to Participate in a Planned Organizational Change," *Journal of Applied Communication Research*, Vol. 22 (1994), pp. 59-80.

<sup>16</sup> E.W. Morrison, "Information Seeking within Organizations," *Human Communication Research*, Vol. 28 (2002), pp. 229-242.

<sup>17</sup> E.W. Morrison and J.B. Vancouver, "With-in Person Analysis of Information Seeking: The Effects of Perceived Costs and Benefits," *Journal of Management*, Vol. 26 (2000), pp. 119-137.

<sup>18</sup> Shah, *op.cit.*

<sup>19</sup> M.A. Stefanone, "Locus of Control, Instrumental Action, and the Pursuit of Social Capital," Department of Communication, Cornell University, 2004; and Susskind *et al.*, *op.cit.*

## The perception that they are not receiving sufficient information can diminish employees' willingness to participate in organizational change.

sequent months to restore lost access to information. Such adjustments should mean gains in centrality in the second post-downsizing period for those who showed losses in the first post-downsizing period. These anticipated cross-lagged gains in the second post-downsizing period are created from the gains in information flow realized by their peers in the first post-downsizing environment.<sup>20</sup> This process should result in negative autocorrelation among the change scores for both centrality and information adequacy. Consequently, I hypothesize:

*Hypothesis 3:* Changes in betweenness centrality at the first post-downsizing period will be negatively related to changes in betweenness centrality at the second post-downsizing period.

*Hypothesis 4:* Changes in information adequacy at the first post-downsizing period will be negatively related to changes in information adequacy at the second post-downsizing period.

### Changes over Time and Turnover Intentions

As noted by Amburgey, Kelly, and Barnett, "organizational change can be both disruptive and adaptive."<sup>21</sup> Downsizing is a particularly disruptive organizational event that challenges survivors to restore a sense of order to their work environment. Job-related uncertainty and chaos in the post-downsizing environment are likely to cause individuals to realign their patterns of network interaction and information flow.<sup>22</sup> An individual's desire to leave a job is normally framed as a set of psychological responses to specific organizational conditions, typically beginning with daydreaming and culminating in a resignation.<sup>23</sup> Studies generally find a negative relationship between turnover intentions and such

emotional measures as organizational commitment and job satisfaction.<sup>24</sup> While downsizing represents involuntary turnover for the majority of those dismissed, the intentions of remaining employees will strongly be influenced by unresolved job tension<sup>25</sup> and the extent of their trust in management.<sup>26</sup>

Survivors are more likely to consider leaving when their access to important job-related information diminishes as a result of the downsizing, particularly when they are not able to restore a sense of order to their work life. These factors may not be directly related to one's network position or centrality, but centrality-related shifts in network structure are likely to influence future actions and adaptive behavior.<sup>27</sup> Social-influence theory would suggest that workers' perceptions and processing of organizational events (such as a layoff), are influenced by cues and communication from coworkers to whom they are directly connected.<sup>28</sup> Therefore, based on social-influence theory, survivors' doubts about remaining with the organization immediately after a layoff are likely to spill over to subsequent time periods. Stated more formally:

<sup>20</sup> *Ibid.*

<sup>21</sup> T.L. Amburgey, D. Kelly, and W.P. Barnett, "Resetting the Clock: The Dynamics of Organizational Change and Failure," *Administrative Science Quarterly*, Vol. 38 (1993), p. 51.

<sup>22</sup> Susskind *et al.*, *op.cit.*

<sup>23</sup> A.I. Kraut, "Predicting Turnover of Employees from Measured Job Attitudes," *Organizational Behavior and Human Performance*, Vol. 13 (1975), pp. 233-243.

<sup>24</sup> J.A. Davy, A.J., Kinicki, and C.L. Scheck, "Developing and Testing a Model of Survivor Responses to Layoffs," *Journal of Vocational Behavior*, Vol. 38 (1991), pp. 302-317; and R.P. Tett, and J.P. Meyer, "Job Satisfaction, Organizational Commitment, Turnover Intention, and Turnover: Path Analyses Based on Meta-analytic Findings," *Personnel Psychology*, Vol. 46 (1993), pp. 259-291.

<sup>25</sup> M.A. Abelson, "Examination of Avoidable and Unavoidable Turnover," *Journal of Applied Psychology*, Vol. 72 (1987), pp. 382-386.

<sup>26</sup> A.K. Mishra and G.M. Spreitzer, "Explaining How Survivors Respond to Downsizing: The Roles of Trust, Empowerment, Justice, and Work Redesign," *Academy of Management Review*, Vol. 23 (1998), pp. 567-588.

<sup>27</sup> J.M. Podolny and J.N. Baron, "Resources and Relationships: Social Networks and Mobility in the Workplace," *American Sociological Review*, Vol. 62 (1997), pp. 673-693.

<sup>28</sup> R.E. Rice, "Using Network Concepts to Clarify Sources and Mechanisms of Social Influence," in *Progress in Communication Sciences*, Vol. 12, ed. W.D. Richards & G.A. Barnett (Norwood, NJ: Ablex, 1993), pp. 43-67; and T.H. Feeley and G.A. Barnett, "Predicting Employee Turnover from Communication Networks," *Human Communication Research*, Vol. 23 (1997), pp. 370-387.

In general, the faster that a downsizing survivor can reconnect to the network, the less likely that person is to think of leaving.

*Hypothesis 5:* Turnover intentions at the first post-downsizing period (T2) will be positively related to turnover intentions at the second post-downsizing period (T3).

While data describe how downsizing survivors are likely to react to equity issues surrounding a downsizing, little information exists regarding how survivors react to downsizing-induced changes in their communication networks, and how those changes influence survivors' work-related perceptions and attitudes. Just as information-sharing mechanisms have been shown to help further employees' ability to complete work-related activities and to enhance feelings of mutual trust and commitment toward the organization, so is it that not receiving adequate levels of pertinent work-related information diminishes downsizing survivors' certainty about their career futures,<sup>29</sup> is believed to reduce levels of commitment to the organization,<sup>30</sup> and is connected to turnover intentions.<sup>31</sup> Therefore, employees' perceptions of information adequacy are particularly important during times of uncertainty, when employees have an enhanced need for information.<sup>32</sup>

It could be expected then, that decreases in information adequacy are related to higher levels of turnover intentions because the loss of needed work related-information will likely prompt survivors to reevaluate their current employment relationship and their desire to remain employed in the post-downsizing environment. This is likely to be the most severe for survivors when the change in information flow interferes with their ability to perform their work-related duties and raises questions about their future with the company.<sup>33</sup>

*Hypothesis 6:* Increases in information adequacy at the first post-downsizing period will be negatively related to turnover intentions at the first post-downsizing period.

*Hypothesis 7:* Increases in information adequacy at the second post-downsizing period will be negatively related to turnover intentions at the second post-downsizing period.

## Procedure and Participants

One hundred and thirty employees working in an international hotel company's corporate office were surveyed prior to and following an organizational downsizing. Employees' network relationships, perceptions, and attitudes were first measured 60 days prior to the scheduled downsizing (T1), and then measured 60 days (T2) and 120 days (T3) afterwards. At all three data collection points the participants completed a communication network questionnaire and an attitude questionnaire; the participants provided demographic information at T1 only.

Just over half of the participants at T1 were male (56 percent), and all were between the ages of 20 and 57 ( $M = 33.42$ ). Seventeen of them had been employed for one year or less, thirty had been employed between one and two years, forty-six between two and five years, and thirty-seven for five years or more. Representatives of the following seven of the hotel's departments participated each time: accounting and finance, facilities engineering, general administration, marketing, personnel, and rooms. These seven departments represented 78 percent of the headquarters staff. Of the thirty-seven employees who did not participate in the study, nine were from the legal department, twelve from the customer support unit, and twelve from the food-service management unit. In addition, the eight top-level managers (such as the CEO, CFO, and the vice-presidents) did not participate in the survey. After the layoff, only two of the remaining employees from the original sample missed one questionnaire administration (one at T2 and one at T3). Additionally, one respondent was initially included in sample, but left the company prior to the questionnaire administra-

<sup>29</sup> Casey *et al.*, *op.cit.*; Johnson *et al.*, *op.cit.*; Miller *et al.*, *op.cit.*; and Mishra and Spreitzer, *op.cit.*

<sup>30</sup> Feeley and Barnett, *op.cit.*

<sup>31</sup> Abelson, *op.cit.*; Ibid.; and Mishra and Spreitzer, *op.cit.*

<sup>32</sup> Morrison and Vancouver, *op.cit.*

<sup>33</sup> Casey *et al.*, *op.cit.*; Johnson *et al.*, *op.cit.*; Miller *et al.*, *op.cit.*; Mishra and Spreitzer, *op.cit.*; and Morrison and Vancouver, *op.cit.*

**EXHIBIT 2**

**Descriptive statistics and correlations of the latent variables**

	<i>M</i>	<i>SD</i>	(1)	(2)	(3)	(4)	(5)	(6)
(1) $\Delta$ Centrality at T2	.64	1.51	[ - ]					
(2) $\Delta$ Centrality at T3	-.15	.73	-.32**	[ - ]				
(3) $\Delta$ Information Adequacy at T2	-1.38	1.34	.28**	-.14	[.84]			
(4) $\Delta$ Information Adequacy at T3	1.57	1.40	-.27**	.20*	-.61***	[.89]		
(5) Turnover Intentions T2	3.48	1.07	-.36***	.10	-.67***	.58***	[.85]	
(6) Turnover Intentions T3	1.85	.98	-.03	-.15	-.02	-.40***	-.05	[.77]

Note: Listwise  $N = 91$ ; reliability coefficients (Cronbach's  $\alpha$ ) appear in the brackets along the diagonal and were not calculated for the network measures; \* =  $p < .05$ , \*\* =  $p < .01$ , \*\*\* =  $p < .001$ .

tion at T1 and so never participated. The remainder of the sample completed and returned all three questionnaires, for a final valid sample of  $N = 91$ .

The hotel company reorganized and downsized its corporate headquarters to reduce redundancy. The general corporate structure and reporting relationships remained consistent, making this layoff a reduction in force rather than an organization restructuring. The downsizing announcement was made thirty days prior to its implementation. After being given career counseling, the affected employees were offered an incentive for “early retirement,” were given the opportunity to take operation-level positions within the company, or simply were dismissed. Each affected employee was given one month of severance pay in addition to the thirty-day advance notice. The thirty-three downsized employees were evenly divided between men and women, averaged about thirty-three years old, and reflected the overall pattern of the headquarters staff in terms of their length of service.

Fifty-six of the 97 remaining employees were men, with an average age of 32. The remaining employees varied in their tenure with the organization with 13 employed for one year or less, 20 employed between one and two years, 35 employed between two and five years, and 29 employed for five years or greater.

**Measurement and Analyses**

As outlined above, I measured the respondents’ betweenness centrality, perceived information adequacy, and turnover intentions three times to assess how their communication patterns and attitudes changed. Data were analyzed using ordinary least squares path analysis. Details of the data collection, data transformation, and analyses are presented in the appendix.

**Results**

The descriptive statistics and correlations of the final scale variables are reported above in Exhibit 2 and the path coefficients and their standard errors are reported in Exhibit 3 (overleaf). As detailed below, the initial path analyses revealed that the hypothesized model fit the data very well,<sup>34</sup> with six of the seven hypothesized path linkages identified as statistically significant in the model. Moreover, sampling error analyses revealed no misspecifications in the model.

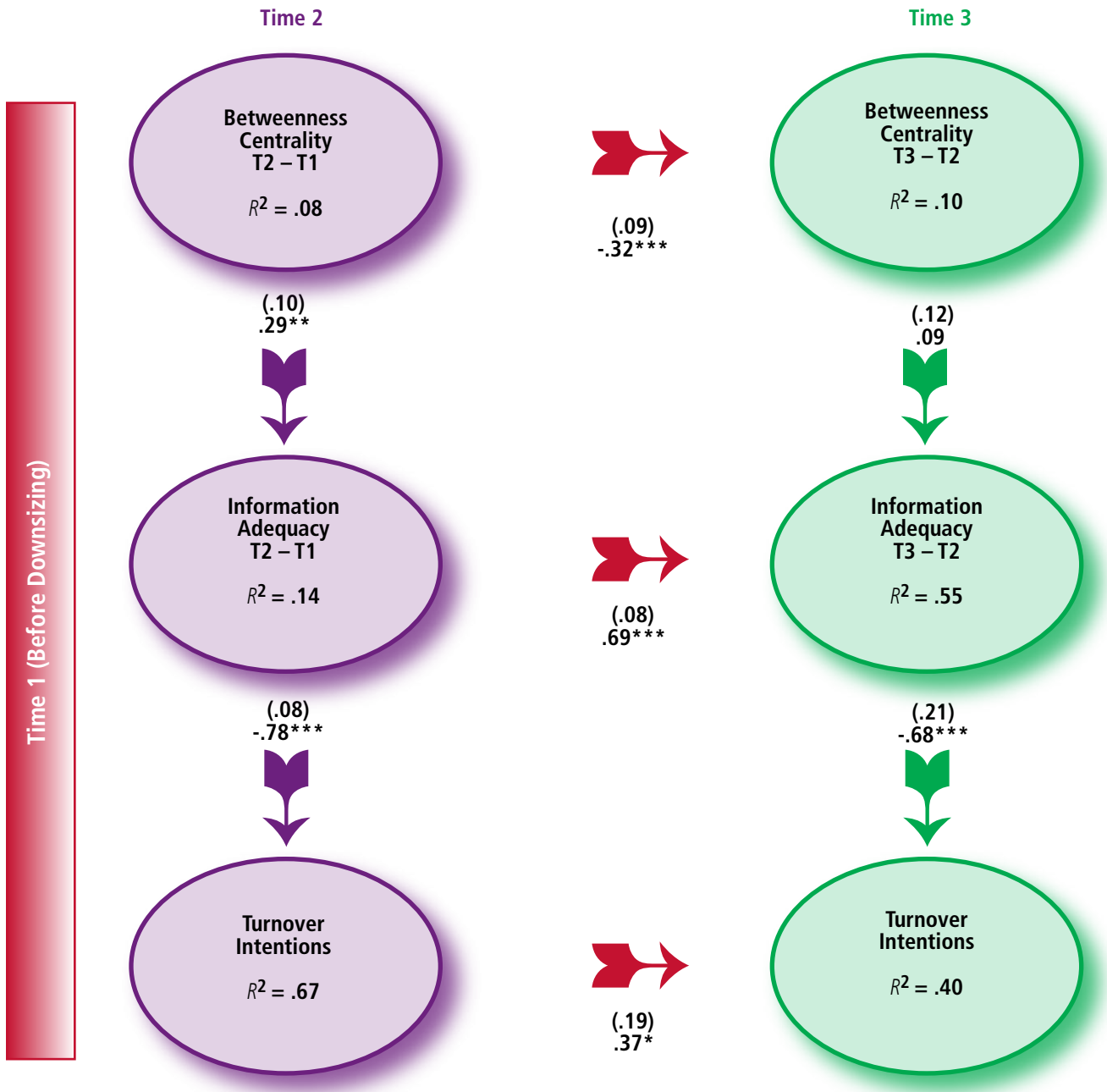
The path between changes in centrality at T2 and changes in information adequacy at T2 was significant (path coefficient = .29,  $p < .01$ ), indicating that changes in centrality between the pre- and post-downsizing networks influenced changes in the downsizing survivors’ perceptions of information adequacy during that time (Hypothesis 1 supported). Hypothesis 2 was not supported because the path between changes in centrality at T3 and changes in information adequacy at T3 was not significant (path coefficient = .09). This finding suggests that shifts in centrality between the two versions of the post-downsizing network were not connected to changes in the survivors’ perceptions of information adequacy during the corresponding time periods. The hypothesized autocorrelation between changes in centrality at T2 and T3 was negative and significant showing a moderate negative relationship (path coefficient = -.32,  $p < .001$ ), indicating that changes in centrality from two months out were inversely related to those four months afterwards (Hypothesis 3 supported). Likewise, the hypothesized autocorrelation between changes in information adequacy at T2 and T3 was significant and strongly negative (path coefficient = -.69,  $p < .001$ ), indicating that changes in information

<sup>34</sup>  $\chi^2 [24] = 13.58, p = .95, CFI = .95, RMR = .05$ .



EXHIBIT 3

Longitudinal model of network centrality, information adequacy, and turnover intentions, with correlations and significance



Note: Listwise  $N = 91$ , path coefficients are unstandardized, and their standard errors are presented in parentheses.  
 $p < .05$ , \*\* =  $p < .01$ , and \*\*\* =  $p < .001$ .

adequacy were also inversely related from one sample time to the next (Hypothesis 4 supported). Turnover intentions at T2 were moderately related to turnover intentions at T3 (path coefficient = .37,  $p < .05$ ), indicating that employees' turnover intentions at T2 influenced their turnover intentions at T3. Last, Hypothesis 6 and Hypothesis 7 were both supported, as changes in perceptions of information adequacy at T2 and T3 negatively and significantly influenced turnover intentions (path coefficient =  $-.78$ ,  $p < .001$  and path coefficient =  $-.68$ ,  $p < .001$ , at T2 and T2, respectively). More specifically, this relationship changed over time with losses in information adequacy ( $M = -1.38$ ) leading to higher levels of turnover intentions ( $M = 3.48$ ) at T2, and increases in information adequacy ( $M = 1.57$ ) leading to lower levels of turnover intentions ( $M = 1.85$ ) at T3.

## Discussion

A primary goal of this investigation was to describe how individuals react to downsizing-induced changes in information flow. This investigation connects changes in communication networks to downsizing survivors' perceptions and reactions over time and offers new insight into the interpersonal mechanisms that shape attitudinal variables and behavioral intentions after a layoff.

The study revealed that changes to downsizing survivors' network centrality in the months immediately following a layoff were positively related to changes in perceptions of information adequacy, while changes in information adequacy were negatively related to turnover intentions at both survey times. The model presented as Exhibit 3 represented these data quite well, tapping into reactions for the three survey times during six months of an organization's history. Below I will discuss the results of the study as they relate to support for the hypotheses, its limitations, and its pragmatic implications.

## Support for the Hypotheses

**Δ centrality to Δ information adequacy.** While a positive relationship existed between changes in centrality and changes in information sufficiency in both survey periods, the relationship was significant in the model only at T2. The findings connected changes in information flow to survivors' perceptions of work-related information adequacy. Changes in centrality were related to changes in information adequacy only in the time period immediately following the downsizing. The nonsignificant relationship noted from T2 to T3 suggests that once a post-downsizing network begins to stabilize, adjustments to network relationships following the initial downsizing have a less significant influence on survivors' perceptions of information adequacy. This finding highlights the difference between downsizing-induced changes and changes that develop in subsequent months.

## Δ information adequacy to turnover intentions.

Changes in employees' ratings of information adequacy were significantly related to their turnover intentions in both post-downsizing periods. At T2 survivors who reported decreases in information adequacy reported a higher level of turnover intentions compared to their peers who reported gains in information adequacy. It is possible that those who gained contacts after the layoff had greater access to support that, in turn, lowered their negative perceptions toward their job situation. Conversely, survivors who reported decreases in information adequacy at T2 reported a higher level of turnover intentions.

Individuals' reactions to the downsizing were generally negative two months after the event, but people had mostly recovered their equilibrium after four months. Prior downsizing studies have found that employees' negative perceptions of the situation typically remain negative until a sense of security and stability emerges.<sup>35</sup> The loss of friends and resources—known as social capital—can create obstacles to work productivity.<sup>36</sup>

In times of uncertainty, workers may rely on support from their coworkers and supervisors to regain a sense of control and aid in their adjustment to their changing work environment.<sup>37</sup> Future research should determine the role of support from both coworkers and supervisors, particularly as it relates to network configurations and resulting attitudes over time.

**Changes in centrality across time.** The downsizing's effects on the survivors' network centrality differed from T2 to T3. First, the centrality change scores at T2 and T3 showed a negative test–retest correlation over time ( $r = -.32$ ,  $p < .01$ ), indicating that the direction of changes in centrality in one post-downsizing period was inversely related to the direction of changes in the other period. Survivors who showed losses in centrality immediately following the downsizing apparently adjusted to those changes, reconstituted their network based on the new conditions, and showed gains in centrality thereafter. Likewise, those survivors who initially showed gains in centrality at T2 adjusted their network after the initial downsizing period and most likely forfeited portions of their newly acquired centrality to accommodate the need for change among those who lost centrality in the previous time period. Second, the magnitude of the change in centrality at T2 was much greater than that found at T3, reflecting a stabilizing network. At T2, the change ranged from  $-2.34$  to  $9.74$ , while at T3 the change in centrality

<sup>35</sup> Brockner *et al.*, *op.cit.*; Davy *et al.*, *op.cit.*; Mishra and Spreitzer, *op.cit.*;

<sup>36</sup> R.S. Burt, "Social Capital versus Structural Holes," in *Social Capital*, ed. N. Lin, K. Cook, and R. Burt (Hawthorne, NY: Aldine De Gruyter, 2000), pp. 31-56; and Susskind *et al.*, *op.cit.*

<sup>37</sup> Davy *et al.*, *op.cit.*

ranged from -3.57 to 3.01. This set of findings also highlights the differential effects of voluntary changes to a network and involuntary changes. The clearly involuntary changes recorded at T2 reflected the adjustment and realignment necessitated by the downsizing. At T3, however, no personnel were involuntarily removed from the network, and any changes were made by network members themselves, probably to improve their position based on their perceived work-related needs.

**Changes in information adequacy across time.** Like centrality, the information adequacy change scores at T2 and T3 showed a negative test-retest correlation ( $r = -.61$ ,  $p < .001$ ), indicating that increases measured at one post-downsizing period were associated with decreases at the other time. The reported levels of information adequacy decreased right after the layoffs, as shown by an average of -1.38 points from T1 to T2. Adequacy ratings returned to pre-downsizing levels by T3, however, with a change of 1.57 from T2 to T3. Thus, the remaining employees generally sensed that information adequacy had been restored four months after the layoffs.

**Changes in turnover intentions across time.** Unlike centrality and information adequacy, turnover intentions showed a negative but nonsignificant test-retest correlation at T2 and T3 ( $r = -.05$ , n.s.), indicating that we can make no definitive statement about changes in turnover intentions from two months to four months out. In general, turnover intentions were high at T2 ( $M = 3.48$ ,  $SD = 1.07$ ), and notably lower at T3 ( $M = 1.85$ ,  $SD = .98$ ). What is of more interest, however, was the relationship revealed in Exhibit 3's model that showed a moderate positive longitudinal relationship between T2 and T3 turnover intentions. The implication of this finding is that survivors' turnover intentions at T2 may not be the sole precursor of subsequent turnover intentions. When combined with the direct and indirect influences from changes in network flow and information adequacy a positive longitudinal relationship emerged.

## Study Limitations

Measurement intervals are an important consideration in research relating to changes in employees' perceptions and attitudes.<sup>38</sup> If I had spaced my tests at intervals other than two months, I might have seen different results. I found that the reports of information adequacy and turnover intentions

<sup>38</sup> S. Zaheer, S. Albert, and A. Zaheer, "Time Scales and Organizational Theory," *Academy of Management Review*, Vol. 24 (1999), pp. 725-741.

had returned to pre-downsizing levels within four months, but if I had collected information at thirty-day intervals or six months later (as did Shah), my data might be starkly different.<sup>39</sup> Remaining employees still harbored negative feelings two months after the layoffs, but by four months they seemed to have come to terms with the downsizing. It would be interesting to determine exactly when the survivors' reactions shifted to the positive side, and what factors influenced that shift. Consequently, until more data are collected prior to and following downsizing, the degree and timing of remaining employees' reactions will not be fully known. Therefore, the researcher should specify the rationale for selecting sampling times for longitudinal research attempting to gauge change.<sup>40</sup> As more longitudinal studies are conducted, clearer ground will be established to guide the selection of network content and sampling intervals.

One issue for this study is that its sample was relatively small. While a larger sample may have been methodologically preferable, the sample of this study was inherently limited by the organization itself. This sample represented eight of the eleven departments in the corporate office and captured 78 percent of the total network. As is true here, studies of organizational networks are necessarily limited by the size of the organization. It seems unwise, therefore, to insist that only "large" field samples be examined. Certainly, field studies are a necessary element to building our knowledge of networks, statistical and methodological concerns notwithstanding.

## Pragmatic Implications

Social, human, and financial capital is exchanged to varying degrees among participants in a network. When network relationships are interrupted by a event such as a downsizing, remaining employees need time to develop network access and reestablish their position in that network.<sup>41</sup> While changes in centrality following a layoff influence survivors' turnover intentions, it is clear that changes to survivors' access to and control of information immediately following a downsizing are most critical. This study indicates that as time goes on network stabilization has a calming effect on the organization and its remaining employees' attitudes. At

<sup>39</sup> Shah, *op.cit.*

<sup>40</sup> Zaheer *et al.*, *op.cit.*

<sup>41</sup> Compare to: R.S. Burt, "The Contingent Value of Social Capital," *Administrative Science Quarterly*, Vol. 42 (1997), pp. 339-365; and Burt (2000), *op. cit.*

## Changes to survivors' access to and control of information immediately following a downsizing are most critical.

a minimum, employees who remain with the organization require enhanced work-related information to help them with the transition from previous arrangements to a point of stability that would be reached in the space of a few months (about four, according to this study). To some degree I also can suggest that the stabilization of a post-downsizing network (evidenced by smaller shifts in centrality) leads to higher perceptions of information adequacy and improved job-related attitudes. This assertion is based on three additional assumptions. First, individuals are assumed to have a sense for whether they are receiving adequate work-related information; second, individuals are expected to know which network members possess or have the ability to possess the needed information; and third, individuals are able to affect their network position to optimize or change their information flow.

Researchers and managers alike may find it useful to examine network centrality when considering the influence of a workforce reduction on remaining employees as one of the many characteristics in organizational network. Changes in the network will require some level of individual member adjustment, but once employees reestablish their network contacts, perceptions of organizational activities and interaction will likely improve or at least stabilize to some extent.<sup>42</sup> Even so, regardless of any stabilization in the situation and the network, a certain number of its participants will likely feel displaced. In analyzing a network one should pay particular attention to changes in betweenness centrality. Such an examination can explain how organizational change and development activities are likely to influence future employee interaction throughout the organizational network and can be used to provide support to change initiators in their efforts to provide post-downsizing assistance to remaining employees. ■

<sup>42</sup> Podolny and Baron, *op.cit.*

### Appendix

#### Methodological and Statistical Detail

##### Measuring communication network relationships

Using a questionnaire, I gathered communication network data to assess each participant's work-related contacts. Respondents were asked to specify the people with whom they regularly communicated in the corporate office during the course of a normal work week. To aid recollections, each participant was given an alphabetized directory containing the names of the corporate employees in the sample listed by department. When I administered the questionnaire, I reminded respondents to report only relationships related to the performance of their jobs, since I hoped to limit the study to their formal work relationships and exclude personal relationships. The likelihood of collecting strictly work-related relationships in a questionnaire such as this is slender, however, since many instrumental and personal relationships overlap.<sup>1</sup> Nevertheless, the focus of this data collection was on formal relationships. This self-report data collection technique is one of several available to measure communication network relationships,<sup>2</sup> and represents a pre-selected, fixed respondent set, based on a nominal approach to defining boundaries for the sample.<sup>3</sup>

I created a symmetrical 130 × 130 matrix to represent the pre-downsizing network with cell entry  $X_{ij}$  set to 1 if either employee in a given pair reported a relationship or set to 0 if neither participant acknowledged a relationship. In the same way, I developed a 97 × 97 matrix to represent both post-downsizing networks. There was a high level of reported agreement among the network relationships in each of the three time periods, where both members of a dyad recognized the same relationship 98.32 percent of the time at T1, 96.71 percent of the time at T2, and 96.07 percent of the time at T3. This high level of symmetry among reported among the dyads was likely facilitated by the use of the departmentalized directory to collect the data.

##### Assessing changes in network centrality

Using UCINET version 5.3 I calculated betweenness centrality for the 97 downsizing survivors by determining the extent to which each network member appeared on the shortest link between two different actors.<sup>4</sup> The normalized centrality values were used to correct for size differences between the pre- and post-downsizing networks.

Continued on next page

To identify changes in downsizing survivors' betweenness centrality, I calculated two change scores for each participant. The first change score was derived by subtracting the T1 betweenness centrality scores from T2 scores, capturing the change in centrality from the pre-downsizing period to the first post-downsizing period. Similarly, the second change score was derived by subtracting the T2 betweenness centrality scores from T3 scores, representing the change in each participant's centrality from the first post-downsizing period to the second post-downsizing period. A positive change score indicated an increase in centrality. Reliability coefficients were not calculated for the change scores because they were derived from a single-item indicator.

#### Survey measurement

Survey measures evaluated the participants' perceptions of information adequacy and turnover intentions using a five-choice Likert-type metric by asking the respondents to indicate their level of agreement with the questions (strongly agree, agree, neutral, disagree, and strongly disagree). *Information adequacy* was measured using a four-item instrument developed by Miller *et al.*<sup>5</sup> A sample item from this measure is: "I am thoroughly satisfied with the information I receive about what's going on at this company." The reliability of the measure was  $\alpha = .83$  at T1,  $\alpha = .86$  at T2, and  $\alpha = .96$  at T3. Calculations of information adequacy proceeded in a fashion similar to that of centrality change. Again, a positive score represented an increase in information adequacy in both cases. The reliability of the first change score was  $\alpha = .84$  and the reliability of the second change score was  $\alpha = .89$ . *Turnover intentions* were assessed using a two-item measure.<sup>6</sup> A sample item from this measure is: "I frequently think of quitting this job." The reliabilities of the turnover intentions measure were  $\alpha = .85$  at T2 and  $\alpha = .77$  at T3. Change scores were not used for the turnover intentions variable.

#### Analyses

The latent path model presented as Exhibit 1 was tested using least squares path analysis.<sup>7</sup> Model adequacy was assessed based on the recommendations that: **(a)** global  $\chi^2$  tests for the sum of squared error for the model be non-significant at the  $p > .75$  level; **(b)** each link be tested for significance by calculating a confidence interval around the observed coefficients; and **(c)** sampling error analyses be applied to each unspecified link in the model to ensure that the hypothesized model did not exclude any relevant links from consideration in the model.

To support the least squares analyses described above and to yield additional fit indices, the model presented as Exhibit 3 was tested using a maximum likelihood approach with LISREL 8.12a.<sup>8</sup> To test the path model I followed Hayduk's recommendations.<sup>9</sup> By default, the error terms were permitted to correlate, and no other relationships other than those specified in the path diagram were permitted to correlate in the structural analyses. To adjust for measurement error in the scale values within the path model, the paths from the latent variables to the indicators were set to the square root of the scale reliability. Additionally, the error variance was set to equal the variance of the scale multiplied by one minus the reliability. These procedures fix the proportion of error variance assigned to each factor based on the scale reliabilities and the relevant variance associated with each factor. To supplement the sampling assessment of fit using PATHE, the CFI and RMR fit statistics are reported.—A.M.S.

<sup>1</sup> P.P. Shah, "Network Deconstruction: The Structural Implications of Downsizing," *Academy of Management Journal*, Vol. 43 (2000), pp. 101-112.

<sup>2</sup> P.R. Monge and N.S. Contractor, "Communication Networks: Measurement Techniques," in *A Handbook for the Study of Human Communication*, ed. C.H. Tardy (Norwood, NJ: Ablex Publishing, 1987), pp. 107-138.

<sup>3</sup> E.O. Laumann, P.V. Marsden, and D. Prensky, "The Boundary-specification Problem in Network Analysis," in *Applied Network Analysis: A Methodological Introduction*, ed. R. S. Burt & M. J. Minor (Beverly Hills, CA: Sage, 1983), pp. 18-34.

<sup>4</sup> S.P. Borgatti, M.G. Everett, and L.C. Freeman, *UCINET 5 for Windows: Software for Social Network Analysis version 5.3.5* (Natick, MA: Analytic Technologies, 1999).

<sup>5</sup> Adapted from: V.D. Miller, J.R. Johnson, and J. Grau, "Antecedents of Willingness to Participate in a Planned Organizational Change," *Journal of Applied Communication Research*, Vol. 22 (1994), pp. 59-80.

<sup>6</sup> Adapted from: J.R. Hackman and G.R. Oldham, "Development of the Job Diagnostic Survey," *Journal of Applied Psychology*, Vol. 60 (1975), pp. 159-170.

<sup>7</sup> J.E. Hunter and M.A. Hamilton, "Pathe: A Program in BasicA," University of Connecticut, Storrs, 1995.

<sup>8</sup> K.G. Jöreskog and D. Sörbom, *LISREL for Windows 8.12a* (Chicago: Scientific Software International, 1993).

<sup>9</sup> L.A. Hayduk, *Structural Equation Modeling with LISREL: Essentials and Advances* (Baltimore: Johns Hopkins University Press, 1987); and L.A. Hayduk, *LISREL: Issues Strategies and Debates* (Baltimore: Johns Hopkins University Press, 1996).



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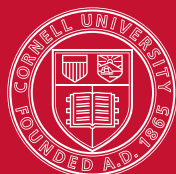
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