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Front and Backstage Processes of an Organizational Restructuring Effort

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Change processes in organizations involve the formal expectations of change agents and administrators, but social processes taking place in the organization also may generate different, sometimes conflicting, outcomes. This study examines a planned restructuring effort that attempted to get people in an organization to work more closely together. The authors hypothesize that individuals seek influence in the organization by acting as brokers between others who are not connected to each other. These brokers gain influence by connecting the otherwise disconnected and have no incentive to connect others to each other. The contradictory forces pushing for connection and the exploiting of disconnections between actors are examined in a school undergoing a change effort during the course of a year.

Keywords: *organizational change; social networks; restructuring*

Organizational change, especially change that involves restructuring, typically takes place in terms of visible formal appointments to positions and changes in official reporting relationships. But it also takes place, often simultaneously to formal change,

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in much less visible shifts in the informal networks of alliances within the organization (e.g., Cross, Borgatti, & Parker, 2002). This less visible shift is a result not only of formal appointments or announcements but also of the social dynamics that occur in response to such announcements.

The relationship between what is officially mandated, how individuals interact with each other, and their joint impacts in creating structural arrangements has a long history in the study of organizations. At one time, theorists talked about differences between formal and informal structures (Scott, 1992). This distinction has faded over time with the realization that it is difficult to distinguish interaction that is formal versus informal (Stevenson & Gilly, 1993). Nonetheless, as Bartunek (1993) has noted, hidden or backstage (cf., Goffman, 1959) shifts in informal linkages often play substantial roles in formal organizational change efforts.

Sometimes planned restructuring efforts involve attempts to get people and groups within organizations to work together more effectively (e.g., Connolly, 2000). When this is the aim, the change agent often attempts to increase formal structural connections between people and groups under the assumption that information will flow more freely, barriers and conflict between work functions will break down, and innovative activities will diffuse more effectively in a dense network (cf., Nelson, 1989). At the same time, however, organization members who stand to lose influence and/or structural autonomy if barriers are broken down may work against efforts to increase formal connections in ways that weaken their influence.

In particular, network theorists have found that brokers who bridge the connections between those not otherwise connected have more influence in the network (Brass, 1984). The gaps between individuals who are connected by a third party have become known as structural holes in networks (Burt, 1992). The more structural holes or structural autonomy in a network of interaction that an individual can generate, the more influence that person should gain (Burt, 1992). Thus, change agents may attempt to increase the formal connections between workers in the organization. However, workers who already can link together those not otherwise connected may have an interest in keeping those with whom they are linked from becoming linked to each other to maintain their own power. Thus, these spanners of structural holes in the network can maintain their influence by resisting the change agent.

In this paper, we study what happened to individual network connectedness and individual influence during a change initiative aimed at achieving greater coordination across the different units of a school. A new administrative position was created with a mandate to increase connections between individuals and groups. At the same time, those striving for influence had an incentive to resist connections and coordination that might remove their position of brokerage between others. In network terms, the social dynamics associated with the efforts they would make to maintain their connections would likely result in structural holes, whose purpose would be inconsistent with the intended outcome of the change effort. These social dynamics would take place as backstage processes, places where, in Goffman's (1959) terms, the impression fostered by what was being changed publicly in the school was "knowingly contradicted as a matter of course" (p. 112).

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ORGANIZATIONAL CHANGE AND NETWORK TIES

Sometimes, as is the case with the change effort studied here, organizational changes, especially those involving restructuring, are aimed at decreasing the prevalence of functional fiefdoms and increasing coordination across organizational units. This kind of change often is desired when clear barriers exist between functions in the organization. Illustrations of approaches that consciously emphasize breaking down barriers include reengineering and team- and network-based organizations. However, many other types of change efforts attempt to accomplish this same result. For example, administrators sometimes place people together in lower level organizational units or in teams in the hopes that they will work together, have dense ties, and become cohesive.

The basic premise of this type of approach can be described in network terms: Organizations must become densely connected through networks to be flexible and attuned to rapid change in the organization's environment. It is typically top management that wants to accomplish this type of change. Such change may be good for the organization as a whole but may be less good for members of separate groups that gain power from their separateness.

From the point of view of network theory, change agents who are trying to accomplish greater coordination across units can be understood as advocating dense connections and attempting to increase structural embeddedness. Structural embeddedness, defined as dense ties between actors, can affect the quality of relationships (Granovetter, 1985, 1992). Uzzi (1996, 1997), for example, found that trust, information exchange, and joint problem solving were all facilitated by embedded relationships.

However, as noted above, individuals may not gain from the creation of dense ties around them. Burt (1992), for example, has been a proponent of the benefits of being a broker who acts as the bridge between the disconnected. Focusing on the individual, Burt argues that brokers benefit from the opposite of structural embeddedness—structural autonomy. The more gaps between those to whom individual actors are connected, the more the actors can receive nonredundant information and the less they are constrained by others. Actors sometimes engage in strategies such as divide and conquer to increase their influence and their structural autonomy (as opposed to embeddedness). Burt, for example, concluded that structural holes in the manager's network lead to promotions in a firm.

It seems reasonable to assume that brokers would have incentives to resist efforts that would lead to actors being connected directly to each other instead of connecting through the broker. The literature on power in organizations has long assumed that individuals will try to garner access to other people and organizational resources for themselves and restrict access to others as a way of increasing influence. Mechanic (1962), for example, argued that lower level participants in organizations would try to develop informal power over others by controlling access to information, people, or resources. Crozier and Friedberg (1980) maintained that organizational actors gain power through access to people, information, and resources, and actors seek to constrain access to these resources in the organization for their advantage. Crozier and

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Friedberg hypothesized that "every member will seek to constrain the other members of the organization to satisfy his requirements and, at the same time, escape the constraints they would put on him" (p. 45). Thus, it may be expected that when efforts are undertaken in an organizational setting to increase coordination and decrease structural autonomy of different administrative units, some complicated dynamics will occur. In particular, although organizational members may appear formally to accept a change effort, informally they may be developing ways to subvert it.

THE CHANGE EFFORT

In this paper, we link a description of an organizational change effort with network measures taken at the beginning of the change effort and 9 months after it had been introduced to gain insight into the dynamics that occur in such a situation. The narrative description of public occurrences during a change effort can be considered its "front stage" events. Ongoing network changes can be considered the "backstage" events of the change effort, the changes that, as Goffman (1959) suggests, may contradict the more immediately visible events.

Our description of a change effort that was aimed at increasing coordination and structural embeddedness in a small organization, a school, is taken from Bartunek (1991) and Bartunek and Reid (1992). We will begin by summarizing the visible, front stage dynamics that occurred during the school year the change effort took place and what the change agents felt had been accomplished at the end of the school year. The second author of this paper visited the school approximately every 3 weeks during the school year and interviewed those involved in the change several times. In addition, she administered questionnaires that included network questions at the beginning and end of the school year. Based both on our qualitative description and the conceptual rationale sketched above, we develop hypotheses regarding what we would expect to happen as a result of the change effort in network terms. We use the results of the two questionnaire administrations to explore these hypotheses and describe some of the private, backstage events that occurred.

The change effort took place at a private school that enrolled about 550 students and was organized into three main administrative units: a lower school (kindergarten through 4th grade), middle school (5th through 8th grade), and upper school (9th through 12th grade). The primary change introduced was a new academic director position. This position, which replaced a previously established curriculum coordinator role, was aimed at achieving greatly increased coordination of curriculum among the different academic units (schools and departments) at the school. The person named to the position had previously been the middle school head and was a good friend of the principal.

The school had had difficulty for the previous 15 years with the curriculum coordinator position and with coordination in general. As one of the administrators commented the prior year, the school had "eaten curriculum coordinators over the years." Turnover in the position had been high, and people who held the role felt they had not succeeded. They attributed their lack of success in part to a pervasive sense in the

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school that the various academic units were autonomous, independent of each other and of the administration. For example, on a self-administered questionnaire from a few years before and as part of the preparation for an accreditation evaluation, faculty and administrators at the school had referred to communication between the lower, middle, and upper schools, between departments, and between faculty and administration as the aspect of the school "most needing improvement." According to the principal, the structural autonomy of the different units had led to significant problems. For example, it was not unusual for upper school students to spend "all-nighters" on assignments, largely because the departments opposed coordination regarding homework assignments and tests. In the spring preceding implementation of the role, various faculty and administrators used phrases such as the following to describe relationships between the different academic units: "Each school [i.e., upper, middle, lower schools] is a fiefdom," "The biggest problem is the departments who think they're queens of the world," and "Each department is a fortress unto their own."

As the principal designed the position, the academic director would have much more responsibility for coordinating curriculum across the lower, middle, and upper schools than the curriculum coordinators had had. For example, the department chairs of physical education and fine arts would report to the academic director because the activities of these departments encompassed the entire school. The academic director also would have other responsibilities that had not been assigned to the curriculum coordinators, such as textbook ordering for the entire school, serving as the school's liaison to the educational subcommittee of the board of trustees, and organizing preparation for an accrediting evaluation to take place in April of the year studied.

During the spring of the year preceding implementation of the position, the principal discussed this new position with the administration and gained their apparent approval. She also informally described the position to the faculty. The position was formally implemented in the fall.

Although apparent agreement had been gained about the position and its value, almost as soon as it was implemented problems arose, and these continued throughout the school year. Many of the problems took the form of a kind of passive resistance in which people who apparently approved of the academic role took steps to decrease the likelihood of its successful implementation. For example, at an administrative meeting in August, the head of the lower school announced that there was overlap between the academic director's role and her position, and that the academic director would not coordinate curriculum in the lower school. During the year, several departments made decisions that the academic director felt she should have been involved in. The head of the upper school announced that academic coordination was under her jurisdiction, not the academic director's. At some administrative meetings during the year, the academic director felt that the principal and the head of the upper school made decisions together that she should have been involved in.

As events like these happened during the course of the year, the academic director felt progressively less support from those from whom she expected to receive support, so she turned to others instead, telling several administrators and faculty members about problems she was having. Some of these people complained to the principal that the principal was not supporting the academic director well enough. These types of

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events led to considerable conflict between the principal and academic director. The conflict came to a head during the accrediting evaluation visit in the spring when the academic director became extremely upset about her perceived lack of support and told her version of events to the accrediting team. Consequently, much of the visit of the accrediting team focused on her role.

At the end of the school year, because of events like these, there was a pervasive sense among top administrators that in the words one of them used, "nothing had changed" concerning coordination in the school during the course of the school year. The academic director felt isolated and ineffectual, and the administrators felt that the implementation of the position had not accomplished its primary aims.

Although the administrators felt clearly that nothing had changed during the course of the school year, it is possible that some changes indeed had taken place, but in a way that was not easily perceptible to the participants. It is these possible behind-the-scenes changes that the network analyses we conducted enabled us to explore. We tested five hypotheses aimed at helping us tease out whether more or perhaps different change had happened than appeared to be the case and the forms these changes might have taken. The first four hypotheses explore backstage processes that would be expected in the school as a matter of course without respect to a change effort aimed at increasing coordination. The fifth hypothesis explores the publicly intended effect of the change effort.

Backstage Events

As our above description indicates, to counteract a public emphasis on coordination, a backstage process of seeking brokerage as a way of gaining structural autonomy and influence was taking place in this school. As the case material indicated, this was a standard, almost routinized process there and one that would likely be exacerbated if school personnel felt threatened. Thus, we would expect that individuals with relatively high structural autonomy at the start of the year would attempt to gain more influence than others at the end of the year, controlling for a number of other factors.

Based on long-standing patterns at the school, structural autonomy indeed was a profitable strategy for an individual to follow, despite formal, front stage efforts to eliminate structural autonomy by joining individuals together. If the change attempt were successful, however, a decrease in structural autonomy would occur over time. These assumptions incorporate four hypotheses about likely events happening under any conditions and one hypothesis about the intended impact of the change initiative over time.

First, given the conditions at the school, over time we would expect individuals to adjust their networks toward more structural autonomy. Accordingly, the following can be hypothesized:

Hypothesis 1: The more individuals change ties, the greater the increase in their structural autonomy over time.

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Individuals with greater tenure in the school had been through prior attempts to create coordination, and based on comments about fiefdoms, had evidently learned ways of skirting these changes. As a consequence, they should be more skilled than others in changing their network ties and becoming brokers between others. As a consequence, the following can be hypothesized:

Hypothesis 2: The greater individuals' tenure, the greater the increase in their structural autonomy over time.

The formal organizational context affects the structural autonomy and influence of the actors. As in most organizational settings, administrators are expected to have more discretion, greater freedom to create ties, and a need to create ties that cut across organizational barriers. Thus, the following can be hypothesized:

Hypothesis 3: Administrators will increase their structural autonomy and influence relative to others over time.

Burt (1992) argued that individuals who change their networks toward more structural autonomy will gain more influence (p. 34). If Burt is correct, over time those who have more structural autonomy should have more influence in the organization. Thus, the following can be hypothesized:

Hypothesis 4: The greater the individuals' structural autonomy, the greater their increase in influence over time.

Front Stage Change

Given this backstage process of influence seeking, what effect did the change agent have? If the change was successful, the work network should get denser, and this would cause average autonomy to decline. In other words, the following can be hypothesized:

Hypothesis 5: Formal attempts to increase coordination will lead to a decrease in individual structural autonomy over time.

RESEARCH METHOD

Data Collection

As noted above, a questionnaire was administered at the start and near the end of the school year. It aimed at determining by means of pretests and posttests whether behind-the-scenes structural change had occurred in conjunction with the implementation of the new role.

Out of 100 people, 87 completed the first or second questionnaire. Our sample size is reduced to the 64 people who responded to the questions we are analyzing at two points in time and who were not isolates. There were 2 isolates who indicated that there

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was no one in their network at Time 1 or Time 2 and thus would be undefined in terms of structural autonomy. The respondents differed from the nonrespondents in that a number of those in their first year at the school did not complete the questionnaire at both points in time. Otherwise, the 64 respondents are representatively distributed throughout the various positions in the school.

Measures

The number of gaps between others to whom the focal person is connected is the number of structural holes or the amount of structural autonomy of the focal individual. That is, a focal person is connected to one or more other individuals in a network. If the focal individual is connected to people who are not otherwise connected, the focal person has the opportunity to be a broker filling the gap or structural hole between the two actors. Structural autonomy, or the number of structural holes in an individual's network, can be measured in a number of ways. Here we measure structural autonomy as effective size of the network, or the number of contacts minus the people an individual already could reach through a tie. This measure is computationally simpler than Burt's (1992) constraint measure, and Burt (2000) has found that results do not differ substantially between the two measures.

Structural autonomy was measured as the effective size of an individual's network in response to the question "Who are the members of your work group, that is, the people with whom you spend most of your time and energy, or with whom you work most closely day to day?" The respondent was limited to six responses.

This question was asked at the two points in time. For computational purposes, the responses were symmetrized, that is, if one respondent cited another, it was assumed that the other respondent would have listed the first respondent as part of the network. Rates of reciprocation of network responses have been found to be high for questions that are inherently reciprocal such as those about who provides social support or who are your close friends (Marsden, 1990).

Organizational influence was calculated as an additive scale based on responses to a series of questions: "How frequently do you usually participate in decisions on the adoption of new programs?" "How frequently do you usually participate in decisions on the adoption of new policies?" "How frequently do you usually participate in decisions on the changes of job assignments of faculty, administration, or staff?" and "How frequently do you usually participate in decisions to hire new personnel?" This scale was adapted from Hage and Aiken (1967). The responses were rated *never*, *seldom*, *sometimes*, *often*, *always*, and *do not know.* The Cronbach's alpha for these items was .89 at Time 1 and .85 at Time 2.

The change in the individual's network was measured as the total absolute number of changes in ties between Time 1 and Time 2, whether ties were added or dropped by an individual. Organizational tenure was measured as the number of years worked continuously at the school. The top administrators were distinguished from others by creating a dummy variable valued at one for being the head of the upper, middle, or lower school, the director of admissions, the academic director, the plant manager, the business manager or the principal and a zero otherwise.

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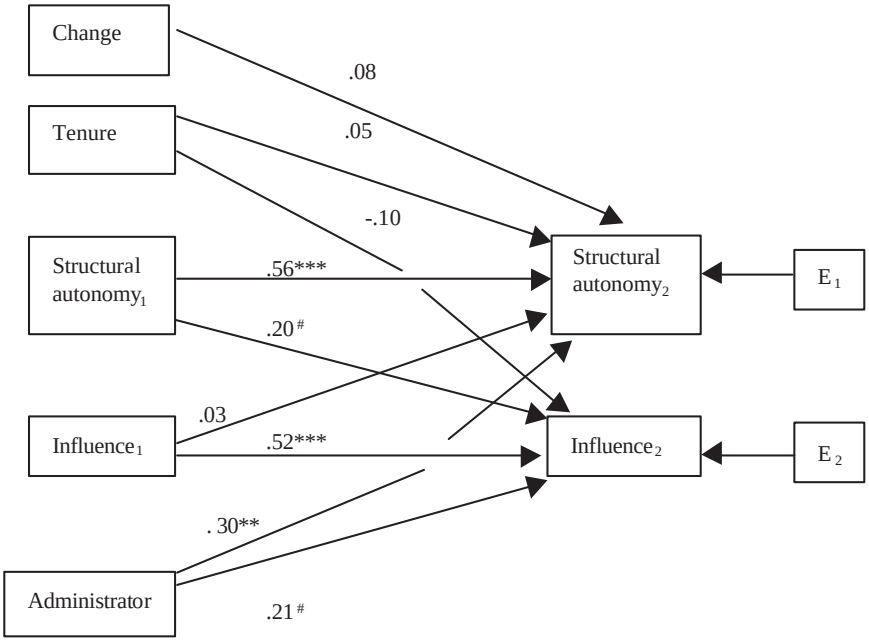

FIGURE 1: A Structural Model of Structural Autonomy and Influence
#*p* > .10. **p* > .05. ***p* > .01. ****p* > .001.

Model Specification and Estimation

The hypotheses were tested using the structural equation program Amos 4.01. Structural equation models are useful when testing for correlated errors in disturbance terms and simultaneous causation among endogenous variables in panel designs (Jöreskog, 1979), as discussed below. As shown in Figure 1, the hypotheses were modeled as a cross-lagged panel design (Heise, 1970) in which all of the exogenous variables are assumed correlated and have effects on the endogenous variables structural autonomy and influence at Time 2 with the exception of change in ties, which is assumed to affect structural autonomy at Time 2 but not influence at Time 2, as stated in Hypothesis 1.

Models in which the same exogenous variables are used to predict the variance in several endogenous variables simultaneously may have correlated errors in the estimation of the associated structural equations (Rao & Miller, 1971). Consequently, we also tested a model with correlated equation disturbances between equations and found the correlated disturbances to be nonsignificant. The standard errors of the coefficient estimates of the model shown in Figure 1 also were estimated using a bootstrap procedure by iterating the estimation procedure 500 times and were found to be very close to the original estimates, providing evidence that the distribution of the variables

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was normal. The possibility of simultaneous causation between structural autonomy and influence at Time 2 also was tested and found to be nonsignificant.

RESULTS

A correlation matrix of the data is shown in Table 1. As a first step in our analysis, we considered the backstage process of seeking influence through structural autonomy. A covariance matrix based on these data was used to estimate the relationship of structural autonomy and influence at two points in time. The results of the structural equation analysis are shown in Figure 1. The model is a good fit to the data with a chi-square of 1.007 with 2 degrees of freedom and a probability of making a Type I error of .604 and an adjusted goodness-of-fit index of .937.

Figure 1 shows the relationship of the variables at two points in time in terms of standardized coefficients. Cross-lagged models such as shown in Figure 1 allow the testing of changes in variables over time. The relationship of a variable with itself over time, such as structural autonomy at Time 1 on structural autonomy at Time 2, can be considered a measure of the stability of the variable at two points in time (Wheaton, Muthen, Alwin, & Summers, 1977). The paths from structural autonomy at Time 1 to structural autonomy at Time 2 and influence at Time 1 to Time 2 are high and significant at .56 and .52, respectively. The effects of other variables on an endogenous variable, such as structural autonomy at Time 2, can be considered to measure the increase in structural autonomy at Time 2 attributed to exogenous variables because the effect of structural autonomy at Time 1 already has been controlled for by its stability coefficient (Kessler & Greenberg, 1981). This is considered a more effective way of measuring change than gain scores that create a new variable that is the difference between the variable at Time 1 and Time 2 or partial correlation coefficients (Bohrnstedt, 1969; although see Rogosa, Brandt, & Zimowski, 1982 for a defense of gain scores). This method is considered more accurate than other methods because the structural coefficient from another exogenous variable "controls for" or shows the effect of the exogenous variable after considering the effect of the target variable on itself at Time 2.

Establishing causality using two waves of data requires the satisfaction of a number of assumptions about causality (Heise, 1970), such as that the structure of causal relationships does not change over time and that the measurement period coincides with the causal effect of one variable on another, in addition to the requirements of statistical estimation discussed above. Because little is known about the causal relationship between structural autonomy and influence in general, it is impossible to know the exact causal model. Thus, these results would have to be considered tentative. It seems reasonable, however, to assume that a measurement period of one school year is appropriate in studying a school and that the causal relationships reflect the change process undergone during the school year. Given that few studies have been conducted over time of network relationships and attempts at change, this is a reasonable set of tentative assumptions.

First, bearing in mind the caveats above, it is apparent that changing ties and tenure in the organization did not lead to an increase in structural autonomy as shown by the

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TABLE 1
Descriptive Statistics and Zero-Order Correlations (n = 64)

Variable	M	SD	*1*	*2*	*3*	*4*	*5*	*6*
1. Change	4.16	3.31						
2. Tenure	7.69	6.40	.16					
3. Structural autonomy$_1$	4.38	3.72	.79***	.14				
4. Influence$_1$	2.41	1.15	.48***	.49***	.62***			
5. Administrator	0.13	.33	.63***	.23**	.71***	.69***		
6. Structural autonomy$_2$	3.97	2.89	.71***	.12	.84***	.59***	.75***	
7. Influence$_2$	2.44	1.01	.53***	.23**	.66***	.74***	.69***	.66***

NOTE: Subscripts 1 and 2 indicate Time 1 and Time 2.
**p < .01. ***p < .001.

nonsignificant and small standardized path coefficients of .08 and .05 between change, tenure, and structural autonomy at Time 2. Thus, Hypotheses 1 and 2 are not supported. Second, being an administrator did lead to an increase in structural autonomy and influence controlling for the effects of tenure and changing ties in the organization as shown by a statistically significant coefficient of .30 and a marginally significant coefficient of .21 on structural autonomy and influence at Time 2, respectively, supporting Hypothesis 3.

Hypothesis 4 states that higher structural autonomy will lead to an increase in influence over time. To test this hypothesis, it is necessary to consider the effect of structural autonomy at Time 1 on influence at Time 2 and to compare this with a possible reverse effect: Influence at Time 1 could lead to structural autonomy at Time 2. The cross-lagged panel design allows the testing of both effects (Heise, 1970). Although some authors, such as Rogosa (1980), argue that the restrictive assumptions for cross-causal inferences such as equal stabilities over time make cross-causal inference impossible, in this case the stabilities are close to equal, allowing a tentative cross-causal inference. However, the thrust of the paper is on the effect of structural autonomy at Time 1 on influence at Time 2, an inference that even Rogosa agrees is possible to make.

The cross-lagged panel coefficients between structural autonomy and influence show that structural autonomy has a stronger, albeit weakly statistically significant, effect on influence as compared to influence on structural autonomy as shown by the marginally significant standardized coefficient of .20 for the effect of structural autonomy at Time 1 on influence at Time 2 and the nonsignificant coefficient of .03 between influence at Time 1 and structural autonomy at Time 2. This provides some support for Hypothesis 4. Taken together, the results summarized in Figure 1 give a picture of an organization where administrators gain power and structural autonomy, where structural autonomy may lead to an increase in influence over time, and change in ties and tenure in the organization do not make much difference in structural autonomy or influence.

We then consider the effect of a change effort on these dynamics. The previous results suggest that structural autonomy leads to influence for the individual, yet the

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change agent's agenda was to reduce network structural autonomy and increase structural embeddedness. To determine the effects of the change effort, we must switch from a consideration of the dynamics associated with the change effort, controlling for other variables, to assessing the mean levels of key variables. Did the change agent reduce structural autonomy or influence (or both) in an organization where structural autonomy leads to influence?

To assess change in mean levels of structural autonomy and influence across the organization, respondents were categorized in terms of the main organizational divisions in the school: lower, middle, or upper school, administrator, or staff. Table 2 shows the results of testing the effects of formal position and the passage of time on structural autonomy and influence using a repeated measures analysis of variance. The top panel of the table indicates that structural autonomy varied across administrative categories ($F = 20.97$, $p < .001$) and changed over time ($F = 4.24$, $p < .04$), but there was no significant difference in structural autonomy by position over time ($F = 1.59$, $p < .19$). The bottom panel of Table 2 indicates that influence varied by formal position ($F = 19.55$, $p < .001$) but did not change significantly over time ($F = .03$, $p < .86$) or between organizational divisions over time ($F = .46$, $p < .76$).

That is, structural autonomy changed over time but influence did not, suggesting that the change agent's efforts to increase connections had an effect. Table 3 shows change in the mean levels of structural autonomy and influence over time. Administrators had the largest amount of structural autonomy and influence in the organization. Overall, the change effort led to reduced structural autonomy, as predicted by Hypothesis 5.

DISCUSSION

This study explored what happened in a school that created a new administrative position whose mandate was to increase the structural embeddedness of very disparate people and groups. We summarized the public events that occurred in conjunction with this effort and primarily using network analyses, focused on the more hidden, backstage switches in structural autonomy and influence that were occurring at the same time.

The public organizational change story can be briefly summarized as follows. The school principal introduced the change and the new administrative position. She expected that the change effort and the new administrator would be successful in increasing links across the separate groups in the school. However, during the school year several influential administrators strongly resisted the change (Bartunek & Reid, 1992). Although the new academic coordinator worked very hard to accomplish the goals of the position, she felt like a failure at the end of the school year. She and other top administrators felt that nothing had changed during the year.

Our network analyses, in particular our use of the constructs of structural autonomy or structural holes, provided us with a different and more complex picture of what was happening.

Based on network analyses at the beginning and end of the school year, considerable change did take place. In particular, consistent with the desired impact of the

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TABLE 2
The Effects of Time and Formal Position on Structural Autonomy and Influence

	SS	df	MS	F	p
Structural Autonomy					
Between subjects					
Formal position	743.96	4	185.99	20.97	0.001
Error	523.22	59	8.87		
Within subjects					
Time	8.34	1	8.34	4.24	0.04
Time × Position	12.55	4	3.14	1.59	0.19
Error	116.17	59	1.97		
Influence					
Between subjects					
Formal position	72.51	4	18.13	19.55	0.001
Error	54.71	59	.93		
Within subjects					
Time	.01	1	.01	.03	.86
Time × Position	.61	4	.15	.46	.76
Error	19.36	59	.33		

TABLE 3
Mean Levels of Structural Autonomy and Influence Over Time

Formal Position	*Structural Autonomy*$_1$	*Structural Autonomy*$_2$	*Influence*$_1$	*Influence*$_2$
Lower (n = 18)	3.44	2.74	2.06	2.22
Middle (n = 7)	4.01	3.16	2.29	2.14
Upper (n = 18)	3.68	3.68	2.28	2.33
Administrator (n = 8)	11.28	9.69	4.50	4.25
Staff (n = 13)	2.59	2.97	1.85	1.92
Overall (n = 64)	4.36	3.95	2.40	2.43

NOTE: Subscripts 1 and 2 indicate Time 1 and Time 2.

change effort, structural autonomy did drop in the school as more ties were established between individuals. However, our analysis also showed that the backstage informal process of gaining influence through structural holes also took place. That is, those with more structural holes in their networks gained more influence in the school during the course of the year of change. In other words, processes of *connection* among groups and individuals and processes of *separation* (e.g., increasing structural autonomy) were working simultaneously during the course of the year. The latter shift was more evident on the surface during the year (e.g., through others not including the administrative director in decisions). The informal processes that the network analysis enabled us to explore were not evident to school personnel, especially the new aca-

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demic director. Yet they signaled events that were very important for overall coordination and dynamics there.

Our results give a complex picture of dynamics of so-called resistance to change that might be occurring during organizational restructuring processes by directing attention to processes moving for and against the direction of an attempted change. They suggest that movement in the direction of the intended change and movement away from this intended direction may be occurring at the same time, although only the set of movements, particularly the ones that seem to indicate resistance, may be noticeable on the surface. In addition, they suggest that structural autonomy might be affected by many change initiatives, regardless of whether it is a focal point of the change. Such shifts in structural autonomy may be one reason that change initiatives are judged as successful or not by their participants, regardless of whether the participants are aware of how their place in the network within the organization has shifted.

Limitations of the Study

Some of the processes that occurred here, notably those connected with our first four hypotheses, may occur during every school year or analogously, during discrete and bounded time periods in every organization. In the school we studied, for example, it may be the case that administrators gain in structural autonomy and influence during the course of each year as they become better known by faculty. Because our study had no control group, we were not able to disentangle the processes that occurred in response to the change effort from standard patterns at the school.

Nevertheless, change efforts always take place in the midst of routinized action in an organizational setting. It is important to understand and appreciate both the standard organizational processes and the change effort and not to explore the change effort in a way that separates it from the standard processes. The network analyses we used enabled us to see the underlying processes that were present even in the midst of change.

A second limitation is that this study was conducted in one small organization with very definite temporal boundaries. Many work organizations do not have such delineated temporal boundaries, such clear markers of startings and endings. It would be useful to conduct analogous studies of change efforts orienting toward restructuring in a much wider array of organizational settings.

Implications for Research

Some implications for research are implied by our depiction of the limitations of the present study, both the value of exploring how change processes interact with routinized processes in any organizational setting and the necessity of conducting studies in a wider array of organizations. Our study suggests more generally how organization change attempts occur within an already established set of rhythms and routines within an organization that typically are backstage, taken for granted, and not even noticed. It is important to pay attention to these routine processes. Network analysis approaches, especially those that focus on such structural phenomena as structural holes and struc-

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tural autonomy, enable the exploration of these dynamics in ways that go beyond what is typically noticeable.

In general, the network analyses we have conducted give a new way of exploring beneath the surface of organizational change efforts (e.g., Bartunek, 1993; Cross et al., 2002). Almost any organizational change effort will likely involve some type of shifts in network ties that come about in a backstage way, beneath the surface of the planned change. This is the case because an organizational change almost always involves some type of change in relationships among organizational members. The kind of work we have introduced here enables exploration of these dynamics and allows researchers to explore structural patterns that emerge in more subtle and complex ways than what is visible to the change agent.

Implications for Practice

Our work also has implications for practice in that it suggests new diagnostic categories and tools that change agents may use to consider, plan, implement, and assess the ongoing course of change. Noticing ties like these is particularly important in changes that involve restructuring of some kind. For example, part of the reason so many reengineering efforts have failed (e.g., Cooper & Markus, 1995) was that they did not pay attention to these less visible processes.

It is valuable for change agents to give more formal attention to issues of structural autonomy, structural embeddedness, and similar network phenomena (cf., Cross et al., 2002) and how these might be affected by particular proposed and implemented change efforts. These issues are likely to be playing important roles in the change effort whether or not this is recognized. It is also valuable for change agents to consider how a particular change initiative intersects with normal, routine processes and structural phenomena in the organization and to consider as normal the likelihood that movement in the direction of the intended change effort will occur at the same time as movement away from it. Awareness of these phenomena will help change agents and assessors of change understand intended changes in much more complex ways than typically is the case.

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