Moderating Effects of Control on the Relationship Between Stress and Change

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Given the well-documented impact of stress on employees, it is important to understand moderating factors, especially in behavioral health treatment settings, where constant change occurs. Staff members at four mental health ($n = 663$) and four substance abuse ($n = 256$) treatment agencies completed questionnaires inquiring about perceptions of direct and indirect agency changes, stress experienced due to changes, and control and input into the changes. Results revealed that as direct and indirect change increased, stress increased; as level of control and input into changes increased, stress decreased. Control and input served as a moderating variable between stress and direct change, but not for indirect change.

KEY WORDS: change; stress; work environment.

The amount of stress employees experience at work has a profound impact on their lives, both in and out of the work setting. The personal costs associated with stress at work are high. It has been well documented that high levels of stress at work results in many negative effects on the personal lives of employees, including increased alcoholism, depression, musculoskeletal pain, lower personal well-being and even martial distress (e.g., Joksimovic, Starke, Knesebeck, & Siegrist, 2002; Kelloway & Bailing, 1994). In one study, over 53% of employees reported that their greatest source of stress in life was their job (Spielberger & Reheiser, 1995).

In addition to having personal costs, high levels of employee stress also lead to a variety of negative consequences for organizations, including greater absenteeism, lowered productivity, increased job turnover, and reduced employee job satisfaction (Cummins, 1990; Spielberger & Reheiser, 1995). In 1990, it was estimated that job-related stress cost U.S. organizations more than $150 million annually (Karasek & Theorell, 1990). Unfortunately, stress levels at work appear to have increased in recent years due to a variety of factors, including technological changes, longer hours at work, globalization, outsourcing, and an increase in service work (Kennedy, 2001).

Several research traditions in organizational psychology are based on the assumption that increased employee work control is associated with better work performance and lower levels of stress (Jimmieson & Terry, 1997; Schaubroeck & Merritt, 1997). Work control is defined as having influence over the work environment, including the ability to influence the execution and the planning of work tasks. The inability of employees to control important work factors, such as the speed and pacing of their production, has been shown to increase the risk of heart disease, psychosomatic disorders, and

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depression, and to lower overall job satisfaction (Elsass, 1993; Israel, Schurman & House, 1989). Work-related stress appears to be particularly exacerbated when low employee work control is coupled with high job demands (Karasek, 1997).

Bond and Bunce (2001) performed a quasi-experiment to test whether work reorganization designed to increase employee job control had positive effects. They found that increased work control improved workers' mental-health, self rated performance, and absenteeism rates. An experimental test of the relationship between worker control and stress was conducted by Jimmieson and Terry (1997). They examined the interactive effects of work stress and control using an in-basket activity. They found that increased worker perceptions of job control had positive effects on mood, task performance, and task satisfaction. Jimmieson (2000) found that self-efficacy operated as a moderator variable; increased worker control reduced the negative effects of work stress, especially for employees who perceived themselves as having high levels of self-efficacy at work.

People who work in the helping professions may be especially vulnerable to stress because they often have high job demands coupled with low job control. For example, low control over their work was found to exacerbate the work stress experienced by physicians (Linzer et al., 2002). Similarly, a study of child welfare direct practitioners found a significant relationship between employee work control and consequent levels of work stress and performance (Guterman & Jayaratne, 1994).

Organizational change is an important trigger of increased work stress (e.g., Cartwright & Panchal, 2001). For example, Pollard (2001) found increased blood pressure and cholesterol levels and lower levels of psychological well-being among government employees preparing for a major reorganization. Greenglass and Burke (2000) found nurses to experience considerable stress in response to hospital downsizing; those nurses with a greater sense of control were ableto better manage this stress.

The purpose of this study was to examine the relationships among perceived organizational changes at several substance abuse and mental health treatment agencies, employees' perceptions of control over these changes, and employee stress. As identified in prior research, it was hypothesized that as indirect and direct organizational changes increased at these agencies, reported levels of employee stress would also increase. Based on prior research (e.g., O'Driscoll & Beehr, 2000), it was further hypothesized that control and input into changes would mediate the relationship between change and stress.

METHOD

Participants

Staff members at four substance abuse treatment agencies and four mental health treatment agencies participated in this study. Staff size of these agencies varied from a low of 24 to a high of 265. Response rates by agency varied from 30% to over 75%, with an average return rate of approximately 50%. A total of 919 staff members participated in the staff survey across the eight participating sites. Of these, 663(72%) were mental health care providers and 256(28%) were substance abuse care providers. The overall average length of time in the job was 53.77 months (SD = 54.45), and ranged from 1 to 336 months.

Of the participants, 547(59.5%) were women and 248(27.0%) men; the remaining 124(13.5%) individuals did not provide information about gender. Ethnicity was predominantly White, with 59.6% indicating European heritage, 2% Alaska Native or Native American, 2.9% African American, 2.7% Asian Hispanic, with 28.6% declining to indicate an ethnicity, and with the remainder being distributed across a multitude of ethnic groups. Respondents ranged in age from 20 to 70 years, with a mean age of 41.68 years (SD=10.57).

Instrumentation

Stress, Change, and Control

Four questions were developed to assess the amount of stress experienced, indirect and direct change that has occurred, and control and input over change. Each of these questions was responded to on a 5-point Likert scale that ranged from *none* (1) to *a whole lot* (5). These questions were as followed:

1. How much change has occurred at your work place in the past 6 months that has involved you or your job description **directly**?
2. How much change has occurred at your work place in the past 6 months that has

involved you or your job description **indirectly**?

3. How much stress have you experienced recently because of the changes that have occurred at your work place?
4. How much control and input do you generally have into the changes that happen at your work place?

Procedures

Data for this study were collected as part of a larger evaluation effort that examined the effects on staff-related variables of changes to the community-wide approach to providing treatment for individuals experiencing mental health or substance abuse crises. An independent evaluator prepared all survey packets (including cover letters, informed consent information, instructions, and surveys) and provided them to each agency's executive or clinical director. Each agency was responsible for distributing the surveys to all staff members. The instructions contained in the packet informed potential participants of the purpose of the surveys and that the data would only be shared with their agency administrators in aggregate format. Once staff members completed the survey, they returned it directly to the independent evaluators.

Statistical Analyses

Series of stepwise multiple regression analyses were conducted to explore the relationship between stress and indirect change as well as between stress and direct change, each as mediated by perceived control. Each of the analyses was conducted with stress as the criterion variable and either direct or indirect change, and perceived control as predictor variables. During Step One, direct or indirect change and control were entered simultaneously to evaluate main effects. During Step Two, the interaction between the direct or indirect change and control was entered to determine any moderating effect of control above and beyond the main effects.

RESULTS

Correlations

Table 1 provides means, standard deviations, and intercorrelations for all variables of interest. As

Table 1. Means, Standard Deviation, and Correlation Coefficients

	M	SD	Control	Direct change	Indirect change
				Correlations	
Stress	3.12	1.20	−0.21*	0.61*	0.56*
Control	2.73	1.03		0.00	−0.06
Direct change	3.35	1.13			0.63*
Indirect change	3.31	1.06			

*$p<0.001$.

indicated in this table, participants reported moderate amounts of stress; moderate amounts of direct and indirect change; and lower, but moderate, levels of control and input into the changes. As amount of direct and indirect change increased, so did levels of stress. Conversely, as level of control and input into changes increased, levels of stress decreased.

Regression Analysis

Table 2 provides regression analyses results for the relationship between stress and direct change, as mediated by control. Results confirm that stress is positively correlated with direct change and negatively correlated with control, with these two variables combined accounting for 42% of the variance. Further, as evidenced by the significant interaction, control and input served as a moderating factor in the relationship between stress and change. It should be noted that although the interaction was statistically significant, corresponding incremental R^2s were relatively small.

Regression analyses results for the relationship between indirect change and stress, as mediated by control revealed indirect change is positively correlated and control negatively correlated with

Table 2. Regression Analyses for Direct and Indirect Change

Variable	B	Incremental R^2	F
		Stress	
Direct change	0.65	0.42	321.21*
Control	−0.23		
Direct change × control	0.07	0.03	52.09*
Indirect change	0.62	0.34	229.28*
Control	−0.20		
Indirect change × control	0.02	0.00	0.15

*$p<0.001$.

stress. However, unlike with direct change, control and input did not serve as a moderating variable in the relationship between stress and indirect change.

DISCUSSION

Corroborating the findings of other researchers (e.g., Lesowitz, 1997), the results of this study confirm the relationships among job-related stress, organizational change, and input into change. That is, as employees experience more indirect and direct change within their workplace, they report increased levels of stress. Conversely, as employees report greater levels of control and input into changes that affect them directly, stress levels decrease.

Results identify control and input as a moderating variable between stress and direct change. That is, individuals experience lower levels of stress in the presence of direct change if they have an opportunity to provide input into the changes. As Terry and Jimmieson (2003) and Cunningham et al. (2002) reported, individuals who are provided information about impending changes and opportunities to participate in implementing the changes experienced greater readiness for, change and less stress. It is interesting that this moderating effect was found for direct change, but not for indirect change. One possible explanation for this finding is that individuals may perceive indirect change as having less impact on their own employment than direct change and are thus less concerned with it. Perhaps indirect change is perceived as sufficiently beyond their day-to-day experiences that the absence of control or input is not as much of an issue. The fact that different types of change are differentially affected by employee opportunities for control and input has important implications for employers. Since soliciting input and yielding control to employees during times of change can be time- and resource-consuming, findings from this study suggest that identifying which employees will be directly affected and working with them on decision-making may be the most cost-effective approach.

With fluctuating funding streams and amounts, changing societal demands and expectations, and continual shifts in philosophies about treatment, the field of behavioral health services has been and will continue to be in an ongoing state of change and flux. Additionally, very high employee turnover rates among in behavioral health fields, both among line staff and administrators, and workloads that overextend staff members, the behavioral health work environment is fraught with change, stress, and burn-out. It is evident from this and prior research that change, particularly direct change, may lead to increased levels of stress.

Given that work environments in the behavioral health field are typically quite stressful to begin with, any steps that can be taken to minimize added stress due to agency changes would be welcome. Giving employees a sense of control and input into organizational changes may help reduce their stress over the changes. Although providing such input can be implemented in numerous ways, depending upon the organization, the main goal should be to provide employees with the opportunity to participate in decision making throughout the change process. Granting input and control appears to be a particularly worthwhile endeavor with employees who will be directly affected by a given change. Individuals who will feel the changes in a more indirect manner are less likely to have their stress ameliorated by input, perhaps because they are too far removed from the changing situation to feel any control over it. Since soliciting input and yielding control to employees during times of change is time- and resource-consuming, findings from this study suggest that a targeted approach in this regard is most efficient. Identifying which employees will be directly affected and working with them on decision-making will help ameliorate their stress and will increase their support of resultant change. Although not measured in the current study, it is not unreasonable to expect any reduction in stress may lead to greater job satisfaction.

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