

# IMPACT BRIEF

BRIEF #19 / APRIL 2007 / ILR SCHOOL / WWW.ILR.CORNELL.EDU

## Supervisor Support, Employee Control Help NYC Firefighters Cope with 9/11

**Research question:** How does the climate of supervisory support and employee control within engine and ladder companies in New York City's fire department affect firefighters' emotional well-being in the wake of their involvement as first responders in the World Trade Center attack of Sept. 11, 2001?

**Conclusion:** The variation in levels of anxiety and stress across these work units months after the attack suggests that context matters. The research described here indicates that distinct facets of the climate within the engine and ladder companies, specifically the support supervisors provide and the control firefighters have over work process and the environment, buffer the relationship between intensity of involvement in the critical incident (i.e., 9/11) and the firefighters' subsequent feelings of stress and anxiety.

**Workplace implications:** Person-centered interventions focused on first responders' emotional well-being may not be sufficient in the aftermath of a critical or traumatic incident. Employers and/or unions concerned about workers' ability to cope with the ordeal might also adopt policies and practices that strengthen the work-unit climate, particularly in the areas of supervisory support and employee control. Given the uniqueness of the attack on 9/11 and the occupational culture of firefighters, the authors caution that further research is needed to learn if the results hold for other first responders.

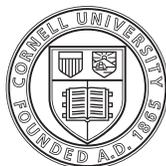
---

*The Impact Brief series highlights the research and project-based work conducted by ILR faculty that is relevant to workplace issues and public policy. Please visit <http://digitalcommons.ilr.cornell.edu/impactbrief/> for full-text pdfs.*

**Abstract:** Although individuals often work in groups and groups function within a larger environment, researchers have rarely examined the effect of context on employees' emotions, attitudes, or behaviors. This study uses the World Trade Center attack to generate and test a context theory concerning the impact on first responders of their involvement in a catastrophic event. The model details the way in which the climate (support from supervisors and employee control over the work environment) within discrete engine and ladder companies (work units) moderates the relationship between emergency response to the attack (the stressor) and the resulting emotional strain on the firefighters.

Prior studies have shown that people's exposure to critical incidents is associated with depression, anxiety, and stress that may begin immediately or surface months later. The severity of individual reactions varies and researchers have proposed several explanatory theories, including biological and psychological factors, the way people mentally process their experiences, and the array of physical and social/emotional resources at their disposal. The authors here draw on the latter two theoretical frameworks to formulate and test several hypotheses that help explain why New York City firefighters involved in 9/11 felt more or less emotionally wrought 18 months after the attack.

Specifically, the researchers wanted to know: 1) whether the association between the intensity of the firefighters' involvement in responding to the attack and subsequent feelings of stress, anxiety, and depression varied across



Cornell University  
ILR School

work units; 2) whether the climate of supervisor support and employee control following 9/11 provided some protection against the emotional fallout from involvement in the event itself; and 3) the path through which each of the two climate variables affected the firefighters' emotional well-being. To find the answers, they developed and then sent a survey to more than 2,500 New York City firefighters from 144 engine and ladder companies.

Analysis of the data affirmed and extended existing research on the importance of context. With context defined here as the climate of supervisor support and employee control within each engine and ladder company, firefighters' feelings of stress and anxiety long after 9/11 did, in fact, vary across work units. (The data did not support an association between involvement in 9/11 and depression, so this variable dropped out of the model.) The study broke new ground in showing that support from supervisors and a sense of employee control over the work environment moderated the effects of the incident on firefighters' individual levels of stress and anxiety. That is, supervisors' willingness to show understanding and offer advice or information at tough moments, for example, together with firefighters' ability to influence decisions such as work assignments or the type of equipment the fire department provides enabled the firefighters to make sense of, and problem-solve around, their involvement in the attack; the result was a buoyed sense of self-efficacy and positive social energy within work teams.

The mediating path between the critical incident and its individual aftereffects is less straightforward. Although the study confirmed previous research showing that post-traumatic distress (intrusive thoughts, avoidance behaviors, and hyper-vigilance) is the intervening variable between involvement in a traumatic event and negative emotional states (stress and anxiety), it also

showed that the two climate factors (supervisor support and employee control) differentially affected the path from involvement in 9/11 to its emotional byproducts. Whereas supervisor support moderated the association between the critical incident and post-traumatic distress, it played no role in the path from post-traumatic distress to feelings of stress and anxiety. Employee control, on the other hand, did not affect the association between the incident and post-traumatic distress but did moderate the relationship between post-traumatic distress and feelings of stress and anxiety. Taken together, then, both climate factors buffered the potentially negative emotional effects on first responders of their involvement in a critical incident.

**Methodology:** A self-report questionnaire was distributed to a random sample of 2,502 New York City firefighters from 144 engine and ladder companies in early 2003, about 18 months after the World Trade Center attack; from a 66% response rate, the researchers included 1,110 surveys in the final analysis. They developed a statistical model that included dependent, moderating, and control variables, which allowed them to assess individual and group level variance in emotional outcomes.

**Source publication:** "9/11, NYC Firefighters and Organizational Support and Control Climates: A Context Theory of the Consequences of Involvement in Traumatic Work-Related Events" is forthcoming in *Academy of Management Journal*. Support for this research was provided by the Smithers Institute at ILR.

---

by SAMUEL B. BACHARACH  
Director, Smithers Institute  
McKelvey-Grant Professor (ILR)

PETER A. BAMBERGER  
Senior Research Scholar, Smithers Institute  
Professor, Technion: Israel Institute of Technology

