

# Journal of Applied Psychology

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Online First Publication, July 11, 2011. doi: 10.1037/a0024442

### CITATION

Leiter, M. P., Laschinger, H. K. S., Day, A., & Oore, D. G. (2011, July 11). The Impact of Civility Interventions on Employee Social Behavior, Distress, and Attitudes. *Journal of Applied Psychology*. Advance online publication. doi: 10.1037/a0024442

# The Impact of Civility Interventions on Employee Social Behavior, Distress, and Attitudes

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Although incivility has been identified as an important issue in workplaces, little research has focused on reducing incivility and improving employee outcomes. Health care workers ( $N = 1,173$ , Time 1;  $N = 907$ , Time 2) working in 41 units completed a survey of social relationships, burnout, turnover intention, attitudes, and management trust before and after a 6-month intervention, CREW (Civility, Respect, and Engagement at Work). Most measures significantly improved for the 8 intervention units, and these improvements were significantly greater than changes in the 33 contrast units. Specifically, significant interactions indicating greater improvements in the intervention groups than in the contrast groups were found for coworker civility, supervisor incivility, respect, cynicism, job satisfaction, management trust, and absences. Improvements in civility mediated improvements in attitudes. The results suggest that this employee-based civility intervention can improve collegiality and enhance health care provider outcomes.

*Keywords:* civility, incivility, intervention, burnout, respect

When doing complex work, employees call on one another's expertise, energy, and wisdom. Factors such as rude, uncivil social exchanges that inhibit these exchanges waste valuable resources of knowledge and potential. The prevalence of incivility in organizations (Pearson, Andersson, & Porath, 2005) calls for effective interventions to enhance the quality of working relationships. Civility is identified as courteous and considerate behavior toward other people (Andersson & Pearson, 1999). In both formal and informal social relationships (Alderfer, 1972; Herzberg, Mausner, & Snyderman, 1959), civility conveys respect, a definitive quality of organizational culture (Schein, 1992). In contrast, *incivility* refers to rude or discourteous behavior that conveys disrespect toward others (Andersson & Pearson, 1999). It can be differentiated from aggression, which has greater intensity and clearer intention (Barling, Dupré, & Kelloway, 2009; Hershcovis & Barling, 2010). In contemporary workplaces, employees expect respectful treatment from management, colleagues, and customers

(Cortina, 2008), but a large proportion of employees report incivility at work (Pearson et al., 2005). Research has linked incivility to numerous negative outcomes for both individuals and organizations, such as stress, anxiety, depression (Yamada, 2000), lost productivity, and even retaliation against the organization (Bies & Tripp, 2005; Skarlicki & Folger, 1997). Despite a clearly defined problem, neither research nor practice has produced convincing evidence supporting effective interventions.

In response to this gap, the goal of our study was to examine the effectiveness of an organizational, unit-level intervention aimed at improving social relationships and civility as a means of improving employee and organizational outcomes. More specifically, we focus on two questions: (a) Can a workplace intervention (i.e., Civility, Respect, Engagement in the Workplace; CREW) improve the quality of social relationships (i.e., more civil interactions, fewer uncivil interactions, and more respect)? and (b) Will improved relationships be accompanied by improvements in employees' experience of burnout, turnover intentions, job commitment, satisfaction, trust in management, and absenteeism, such that these social relationships mediate the effect of the intervention on these broader outcomes?

We approach these research questions on civility using the theoretical framework of social interactions at work. We review the predictors of incivility at work, considering the aspects of the work environment that influence social behavior, and we review the outcomes of incivility (in terms of burnout, withdrawal, and attitudes), identifying both the destructive and constructive implications of these interactions. Finally, we consider approaches to improving the quality of social relationships at work, by incorporating these components within a framework developed by the USA Veterans Hospital Administration (i.e., CREW).

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This research was supported by funding from the Partnerships in Health Services Improvement of the Canadian Institutes for Health Research, the Nova Scotia Health Research Foundation, the Ontario Ministry of Health, and the Social Sciences and Humanities Research Council of Canada awarded to Michael P. Leiter (principal investigator).

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### Social Interactions at Work

The theoretical basis of our approach builds on the proposition that people benefit psychologically from belonging to social groups that confirm self-worth, security, and trust of others (Aquino & Thau, 2009; Baumeister & Leary, 1995; Stevens & Fiske, 1995). Because of the fundamental role that social relationships at work have for individuals, workplace incivility has practical, day-to-day consequences that can be quite extensive.

Hirschman's (1970) economic model of consumer–organization relationships describes when customers will express displeasure through voice (filing complaints) or exit (stopping further purchases). It has been adapted to propose that employees react to mistreatment through voice (filing a grievance; Klaas, 1989) or exit (turnover and other withdrawal). The latter concept has been expanded to include remedial voice, including informal conflict resolution or appeals to supervisors (Olson-Buchanan & Boswell, 2008). That is, poor social relationships may render employees' status untenable, requiring corrective action for them to remain productive, fulfilled members of their workplace. Therefore, to be effective, any intervention targeting social relationships needs to provide a means of remedial voice, such that colleagues could work with one another under the organizations' official auspices to address the aspects of their social environment that lead to mistreatment (Olson-Buchanan & Boswell, 2008).

Pearson et al. (2005) proposed that in unresolved conflict situations, there exists a potential for an accelerating spiral through which acts of incivility incite reciprocal incivility, deteriorating the quality of discourse and leading to more severe incidents (e.g., aggression). When lacking resolution, people may resort to rude behavior to express resentment. A likely result of unsuccessful resolution or retaliation to incivility is withdrawal, either through reduced performance or departure. Similarly, Olson-Buchanan and Boswell (2008) developed a model of employee responses to mistreatment, in which employees' interpretation of an initial event shapes the process of resolution, and, in turn, the outcomes of resolutions shape employees' interpretation of future events. Therefore, incivility can be self-perpetuating, which has important implications for any intervention process.

That is, once incivility becomes established within a group, an active process may be necessary to introduce social behavior that prompts positive responses from group members, thereby initiating a positive self-perpetuating process. In contrast to the downward spiral of incivility (Pearson et al., 2005), acts of civility may inspire reciprocal civility, establishing a positive spiral, increasing employees' commitment to the workplace and the organization as an environment in which they may fulfill their sense of belonging. Some studies have noted the reciprocal nature of social relationships (Porath & Erez, 2007; Robinson & O'Leary-Kelly, 1998) as well as the potential for emotional contagion (Kelly & Barsade, 2001). However, despite the amount of research demonstrating the negative impact of incivility (e.g., Lim, Cortina, & Magley, 2008), an unresolved issue in present research is the extent to which civil relationships among colleagues have positive consequences at work.

Therefore, all of these theoretical models propose that face-to-face relationships with colleagues and supervisors define crucial aspects of employees' experience of work. These models consider that poor working relationships not only directly impose strains on

people but also reflect problems in the workplace, whereas supportive and civil working relationships create positive employee outcomes.

### Predictors of Incivility

Much research has supported the view that incivility is a function of the social environment at work. For example, upon reviewing the empirical evidence in this extensive literature on victimization, Aquino and Thau (2009) concluded that the most consistently strong predictors of mistreatment at work operate at the management level, in terms of lack of clear guidelines for collegial behavior and authoritarian leadership styles. Moreover, in their comprehensive meta-analysis, Bowling and Beehr (2006) found little convincing evidence that victimization from workplace mistreatment was associated with either the personal qualities of employees or structural qualities of occupations. These studies support the contention that incivility arises not from the failings of individuals, but from patterns of social interaction implicitly sanctioned by the management environment. Therefore, improving workplace social environments, in conjunction with a sincere commitment from management, may reduce incivility and mistreatment. Consequently, this lower incivility may then lead to other positive employee outcomes, such as more positive work attitudes and less burnout, turnover intentions, and absenteeism.

### Outcomes of Incivility

Poor interpersonal relationships at work, including incivility, tend to be related to negative employee outcomes, such as decreased mental health (depression, anxiety; Hansen et al., 2006; Tepper, 2000), job stress (Agervold & Mikkelsen, 2004), increased somatic symptoms (LeBlanc & Kelloway, 2002), and emotional exhaustion (Grandey, Kern, & Frone, 2007). Similarly, workplace incivility tends to be associated with greater psychological distress (Cortina, Magley, Williams, & Langhout, 2001; Keashly, Hunter, & Harvey, 1997), such as burnout.

Negative peer relationships can be viewed as illegitimate demands (Semmer & Schallberger, 1996), which increase burnout and prompt withdrawal, including effort reduction, absences, and turnover (Chiaburu & Harrison, 2008). For example, employees experiencing incivility may contemplate leaving their job (Baba, Galperin, & Lituchy, 1999; Cortina et al., 2001; Leiter & Maslach, 2009). Not only may they withdraw behaviorally through turnover (Burke & Richardsen, 2000; Leiter & Maslach, 1988) or absenteeism (Hauge, Skogstad, & Einarsen, 2010; Kivimäki, Elovainio, & Vahtera, 2000), they also may psychologically withdraw from their work through cynicism (Leiter & Maslach, 2009). Overall, incivility and poor social relationships at work may aggravate exhaustion and distress through their emotional toll and motivate employees to withdraw from one another.

Conversely, positive social relationships may reduce burnout because civility among colleagues also is consistent with professional efficacy, reflecting employees' capacity to call on the energy, abilities, and emotional support of their colleagues (Halbesleben, 2006; Leiter & Maslach, 1988). For example, a consistent body of research has shown that positive coworker interactions and support may buffer employees from experiencing burnout (Leiter & Maslach, 1988; Liang & Hsieh, 2008). Therefore, we expect

improvements in social relationships to be reflected in more positive experiences on the burnout dimensions of exhaustion and cynicism as well as in diminished turnover intentions.

In addition to their role in workplace distress and withdrawal, social relationships have a pervasive role in models of positive organizational psychology, in terms of organizational commitment and job satisfaction (Chiaburu & Harrison, 2008; Cortina et al., 2001; Trudel, 2010). For example, workplace incivility tends to be associated with job attitudes, such as reduced job satisfaction (Cortina et al., 2001).

Management trust reflects employees' expectation of both the competence and the good intentions of managers (Cook & Wall, 1980; Laschinger & Finegan, 2005). A definitive predictor of management trust is employees' experience of justice in workplace decisions (Kramer, 1999), which is a product of civility and positive social relationships (Berkowitz, 1993; Bies, 2000; Bies & Moag, 1986). When encountering incivility at work, employees may conclude that the organizational leadership has violated reasonable norms about the quality of the workplace (Pearson, Andersson, & Wegner, 2001). Therefore, incivility may result in a lower degree of trust at work (Pearson et al., 2001).

To summarize, negative peer relationships are illegitimate demands that may increase burnout and prompt various withdrawal behaviors, including effort reduction, absences, and turnover (Chiaburu & Harrison, 2008). Conversely, positive peer relationships may permit colleagues to draw on key workplace resources (e.g., one another's knowledge, expertise, energy, and social support), thereby increasing employees' efficacy, commitment, and satisfaction. Therefore, to obtain a more comprehensive understanding of workplace wellness and to better understand the mechanisms for increasing civility through a workplace intervention, it is important to include measures of both the positive and negative sides of social relationships.

### Improving Social Relationships Through Workplace Interventions

There are few studies of workplace interventions that address incivility. In a systematic review of interventions targeted at managing disruptive behavior, Rogers-Clark, Pearce, and Cameron (2009) concluded that most studies evaluated local interventions with qualitative methods, yielding interesting, but not generalizable, results. Krebs (1976) tested the impact of tailored interventions on respectful and disrespectful behavior among hospital unit employees, finding significant improvements following the interventions. He argued that the unique qualities of unit relationships require an individualized approach to emphasize issues relevant to participating units. That is, what works in one unit may not work in another, necessitating ground-up approaches.

More recently, Osatuke et al. (2009) reported the results of an organizational intervention that specifically targeted workplace civility in Veterans Hospital Administration (VHA) settings (i.e., Civility, Respect, and Engagement in the Workplace; CREW). The approach followed an action research design (Argyris, Putnam, & Smith, 1985) that involved employees, management, and researchers in the design of the intervention. In their study, employees participated in a 6-month process in which they worked with facilitators to address issues related to civil interactions among employees on their work units. The approaches varied according to

salient issues for the units involved. All units identified specific areas of working relationships to be addressed, developed a plan of action, and ultimately evaluated their effectiveness.

Civility training may influence behavior through forms of reciprocity because both positive and negative reciprocity perpetuate the quality of social relationships (Bowling & Beehr, 2006; Gouldner, 1960). Therefore, effective interventions would include a means of interrupting negative exchanges (e.g., incivility, abuse, aggression) to defuse their impact before they prompt reciprocal responses, such as personal aggression or formal complaint procedures. Effective interventions also would take an active role in promoting positive exchanges among colleagues, inspiring reciprocal action and building good will throughout the group.

Frederickson's (2001) broaden and build model provides a constructive perspective on the CREW process used by Osatuke et al. (2009). The model contends that distress narrows employees' perspectives, reducing their potential to find solutions to challenges that they confront. People generally retreat to the familiar under stress, reducing their capacity for creative problem solving. In contrast, supportive, empowering experiences at work broaden their perspective (Edmonson, 1999), giving a sense of psychological safety. Efficacy and trust at work give the confidence necessary to enhance one's potential. By creating a social context dedicated to improving civility, CREW sessions broaden employees' perspectives, opening problem-solving possibilities.

### Principles of Improving Social Relationships at Work

The defining principles of the CREW approach are the following: (a) building civility through required direct conversations on the issue guided by accurate assessments of the groups' social environment (i.e., receiving feedback about the group level of incivility); (b) driving the process through exercises that help participants explore new ways of interacting; (c) moving participants out of established patterns of social behavior through leadership from facilitators; (d) receiving explicit support for the process from management as essential to the program's success; and (e) encouraging employee ownership of the process in order for it to be successful (Osatuke et al., 2009). That is, the key aspects of CREW are that employees facilitate and own the change themselves, and the intervention is responsive to the participants' unique situations (client-centered).

Consistent with core principles of change leadership (e.g., Kotter, 2007), employees fill key roles in implementing the process. That is, employees are not passive recipients of a preset curriculum; instead, they put the intervention into action. A defining quality of the intervention is its responsiveness to the participants' understanding of their situation and their aspirations. As Osatuke et al. (2009) noted, CREW reflects the roots of organizational development in client-centered therapy (Herzberg et al., 1959; Maslow, 1973; Rogers, 1959), such that work groups are self-regulating systems, and group members experience a sense of agency in reshaping their social environment. Therefore, efforts to impose change from external sources often prompt defensive reactions that entrench groups into their established patterns of behavior. To counter this potential risk, the CREW process is responsive to the unique experiences of each group prior to initiating CREW and the members' experiences during implementation, an approach well established in organizational development

(Argyris et al., 1985; Millsap & Hartog, 1988). Thus, the intervention may vary across groups in the qualities of their meetings (e.g., the number of participants, the length of meetings, the meeting space, and the specific activities; Osatuke et al., 2009).

### Summary and Hypotheses

Poor social relationships and incivility at work tend to be associated with negative employee outcomes. However, there is little research pertaining to any type of intervention aimed at improving employee relationships, let alone overall quality of work life and outcomes. Osatuke et al.'s (2009) research is one of the few studies to examine the effectiveness of an intervention process, and, to our knowledge, it is the only one dealing with incivility. Osatuke et al. (2009) found significant pre-post intervention differences in civil behavior on the participating employees. They related these improvements to improvements in absenteeism and organizational costs. These findings echo recent research identifying significant financial costs of incivility among coworkers (Porath & Pearson, 2010). Their study provided evidence that their CREW intervention process may be a valid starting point for more intervention research in this area. Therefore, our study uses their process as the basis for the intervention: We examine changes in work group incivility from Time 1 (preintervention) to Time 2 (1 year after the first survey). We also examine the broader implications of civility and incivility for employees' experience of work life.

We extended Osatuke et al.'s (2009) work in several important ways. We used a validated measure of incivility in addition to their measure of civility. Our study considers the intervention (and the changes in levels of incivility) as prompting important individual and organizational outcomes as well as employees' experience of and attitudes toward work. The extent to which the intervention is associated with more general work-related attitudes and behaviors has important theoretical and practical implications for organizations.

On a practical level, the CREW process appears promising (Osatuke et al., 2009); however, its applicability beyond the VHA and, more importantly, the extent to which its improvements in civility are accompanied by more extensive improvements in employees' experiences of work life both remain to be determined. On a theoretical level, by assessing distress at work (i.e., exhaustion, cynicism, intentions to quit), we gain a perspective on employees' connections with social relationships at work along with positive attitudes toward work (i.e., job satisfaction, commitment, and professional efficacy).

The present research also involves significant advancement of the extant incivility research by conducting more precise analysis of nested organizational data. When organizational health interventions are applied to intact working groups, the data analytic approach should control for the nested data structure (i.e., health care staff nested within health care unit), because the shared social environment, work pressures, perceptions, and attitudes among department members can distort or inflate estimates of treatment effects (Raudenbush & Bryk, 2002). We used multilevel linear modeling in order to precisely control for both repeated observations among some participants as well as common group membership within health care units. This approach is both more conser-

vative and more accurate than traditional general linear models, which ignore the nesting of workers within units.

### Hypotheses

The immediate criterion for a civility intervention is whether it changes employees' experiences of civility in their relationships at work.

*Hypothesis 1:* Compared with participants in the contrast group (who have not received the CREW program), participants in units who have completed the CREW training program will report greater increases in civility within their unit, decreases in incivility from their supervisor and coworkers, and decreases in instigated incivility (i.e., from self).

Because of the integral association of social relationships with burnout (Leiter & Maslach, 1988), we expected CREW training to be associated with improvements in the aspects of burnout. In light of incivility's connection with turnover (Cortina et al., 2001), we expect CREW training to be associated with reduced turnover intentions.

*Hypothesis 2:* Compared with participants in the contrast group (who have not received the CREW program), participants in units who have completed the CREW program will report greater reductions in emotional exhaustion, cynicism, and turnover intentions.

In addition to improving the negative aspects of employees' connection with work (exhaustion and cynicism), we expected CREW training to improve positive work attitudes. As noted previously, incivility is associated with lower organizational commitment and job satisfaction (Chiaburu & Harrison, 2008).

*Hypothesis 3:* Compared with participants in the contrast group (who have not received the CREW program), participants in units who have completed the CREW program will report greater increases in professional efficacy, organizational commitment, and job satisfaction.

Chronic incivility among employees and between employees and supervisors has the potential to undermine employees' confidence in management's commitment to fairness at work, thereby threatening their trust in management. Both procedural and interactional justice depend on the quality of working relationships and are related to trust in management (Laschinger & Finegan, 2005; Stinglhamber, De Cremer, & Mercken 2006).

*Hypothesis 4:* Compared with participants in the contrast group (who have not received the CREW program), participants in units who have completed the CREW program will report greater improvements in their trust in management.

In addition to changing employees' social behavior and emotional/cognitive connection with work, we expected CREW to have a positive impact on employees' withdrawal behavior, as measured by absences (Cortina et al., 2001).

*Hypothesis 5:* Compared with participants in the contrast group (who have not received the CREW program), partici-

pants in units who have completed the CREW program will report a greater decrease in missed days from work.

If, as our hypotheses assume, the critical component of the CREW intervention is its ability to improve unit civility, we should see that changes in civility mediate the effect of Time  $\times$  Interaction on the more distal organizational attitudes and outcomes (e.g., cynicism, job satisfaction).

*Hypothesis 6:* Changes in civility will mediate the relationship of the intervention with organizational attitudes and outcomes.

### Study Design

The research followed a quasiexperimental design involving 41 units, eight of which were selected to participate in a 6-month intervention designed to promote civility among unit employees. These 41 units were not randomly chosen from the entire hospital. Rather, they were those who expressed an active interest in a project on workplace civility, who were enthusiastic about participating in the program, and who were not participating in any other related program (e.g., a provincial initiative on Model of Care or an internal organizational health initiative).

The eight units were assigned to the intervention (CREW) condition on the basis of two criteria: (a) units that appeared representative of the research participants (i.e., not the most troubled units, not the best adjusted units, but units likely to benefit from improved civility); and (b) units that were not already committed to a major workplace initiative during the 6-month intervention process. The decision for a hospital unit to participate in the intervention was made by the unit manager in consultation with the chief nursing officer of that hospital.

There were several factors that limited our control over the experimental nature of the study. Each CREW group was led by a different facilitator to ensure that any one facilitator was not overloaded, and could fit the demands of the role into his or her work schedule, while still ensuring a high-quality process. The contrast units were aware of the CREW program, although they did not formally participate in the process. Furthermore, the employee make-up of the units was not static. That is, there was an ongoing flow of new hires, transfers among units, and employee departures, making an individually matched data set impractical. Finally, all participating hospitals conducted employee health and quality-of-work life initiatives over the course of the study. These departures from a true experimental design are unavoidable in applied research settings (Argyris et al., 1985). Finally, because facilitators drew from a larger curriculum to implement exercises appropriate to their groups' local situation, the specific CREW activities varied across units. That is, the CREW implementation followed the core underlying principles, but the specific format and activities varied. However, all intervention groups shared the four core qualities: (a) assessment and feedback on the unit's baseline level of civility and incivility was given at the start the program, (b) the overall messages were identical (e.g., defining civility and incivility, creating clear communication around civility issues on the particular unit, setting agendas and priorities for addressing these issues directly; establishing the ground rules for conversations around civility; treating people with respect, etc.);

(c) all groups received the same information and manuals; and (d) they all had similar meeting formats.

### Method

**Participants.** At Time 1, 1,173 health care workers in three district health authorities in Nova Scotia and two hospitals in Ontario completed a survey ( $n = 262$  in the intervention units and  $n = 911$  in the contrast units). Participants were predominantly female ( $n = 1,009$ , 86.0%; male:  $n = 139$ , 11.8%; 25 not responding), with an average age of 42.54 years ( $SD = 10.12$ ). Their employment status varied, including full-time ( $n = 833$ , 71.0%), part-time ( $n = 232$ , 19.8%), casual ( $n = 85$ , 7.2%), and temporary ( $n = 8$ , 0.7%) employment, with 15 not responding.<sup>1</sup>

The occupational categories with the highest response rates included registered nurses (RNs;  $n = 607$ , 51.7%), registered psychiatric nurses (RPNs;  $n = 74$ , 6.3%), ward clerks ( $n = 52$ , 4.4%), physicians ( $n = 46$ , 3.9%) and licensed practical nurses (LPNs;  $n = 42$ , 3.6%). They worked in their current hospital for varying lengths: fewer than 6 months (25, 2.1%), 6–24 months (68, 5.8%), 2–5 years (247, 21.1%), 6–10 years (207, 17.6%), 11–15 years (124, 10.6%), 16–20 years (151, 12.9%), 21–30 years (190, 16.2%), and more than 30 years (50, 4.3%), with 111 not responding.

At Time 2, 907 health care workers completed the survey ( $n = 181$  in intervention units;  $n = 726$  in contrast units), for a response rate of 28.6%. Four hundred seventy-two participants completed surveys both at Time 1 and Time 2. At Time 2, participants were predominantly female ( $n = 793$ , 87.4%; male:  $n = 96$ , 10.6%, 18 not responding), with an average age of 42.27 years ( $SD = 10.60$ ). Their employment status varied, including full-time ( $n = 645$ , 71.0%), part-time ( $n = 177$ , 19.6%), casual ( $n = 56$ , 6.1%), and temporary ( $n = 13$ ; 1.4%) employment, with 16 not responding. The occupational categories with the highest response rates included RNs ( $n = 464$ , 51.3%), physicians ( $n = 43$ , 4.8%), ward clerks ( $n = 43$ , 4.8%), RPNs ( $n = 41$ , 4.5%), and LPNs ( $n = 33$ , 3.7%). They worked in their current hospital for varying lengths: fewer than 6 months (16, 1.8%), 6–24 months (78, 8.6%), 2–5 years (137, 15.2%), 6–10 years (133, 14.7%), 11–15 years (70, 7.7%), 16–20 years (101, 11.2%), 21–30 years (160, 17.7%), and more than 30 years (44, 4.9%), with 168 not responding. Employees who described their position as temporary (Time 1,  $n = 8$ ; Time 2,  $n = 13$ ) were dropped from the analysis.

**Procedure.** These health care workers completed a questionnaire as part of a project to improve civility among colleagues. In accordance with procedures approved by relevant ethics review panels, researchers worked with hospital personnel to distribute questionnaire packages to personnel on 41 units across the five hospitals. Research objectives were explained, confidentiality was ensured, and reminders were posted in the hospitals to help increase participation. In accordance with ethical procedures, completing the surveys was voluntary. Participants had an option of completing the survey online. Members of the team presented the rationale for the survey and were present on participating units across the shifts to answer questions and provide assistance upon

<sup>1</sup> Although we cannot directly compare health-care workers who participated with those who did not, the demographics of our sample are comparable to the norm for hospital employees in Canada.

request. Participants returned completed surveys in business-reply stamped envelopes to a research center that was independent of the hospitals. Of the 3,163 distributed surveys, 1,173 were received for a response rate of 37%. Following the first wave of surveys, the research team worked with hospital partners to implement the CREW procedure on eight of the 41 units. In accordance with ethical procedures, participation in CREW sessions was voluntary. Following the 6-month intervention period, a second wave of surveys was administered (1 year following the first survey) using the same procedure.

**CREW intervention.** Osatuke et al.'s (2009) CREW process was used. CREW is a process designed to enhance civility among colleagues within the USA VHA. Employees met with coworkers on their units on a weekly or biweekly basis to work on effective interpersonal interactions at work. Trained facilitators assist these groups by providing guidance on the basis of their expertise in group facilitation and knowledge of effective work group communication.

The core elements of the CREW process include the following components that occur in this order:

1: a preparation period to introduce the concepts of civility and incivility to participants and management, and to introduce CREW as an inclusive (i.e., open to all members of a work group) intervention to improve these work group qualities. To support this process, management explicitly encouraged civility as a core value of the organization. This support may be made explicit by (a) making public statements regarding the importance of civility and respect in the organization's values, (b) writing articles in organizational publications about the importance of civility and respect at work, or (c) committing to displaying civility in their own interactions with individuals and groups. A signed commitment from a senior official is an initial step in a CREW process.

2: an initial survey to identify baselines of civility and organizational attitudes/behaviors for each work group. The research team provides all facilitators with a profile of their unit's survey responses, describing levels of civility, incivility, and other relevant constructs. Facilitators receive easy-to-read profiles of their units' responses.

3: an initial gathering of facilitators and hospital leaders from various hospitals in the region for CREW training and community building among participants. The process builds a learning community by bringing together leaders from different organizations and from distinct sectors of larger organizations who share the objective of mastering methods for improving working relationships.

4: 6 months of weekly CREW meetings comprising 10–15 employees working on the same hospital unit led by a facilitator for each unit. Groups use structured exercises from the CREW Toolkit to help participants move out of their comfort zone, such that they are not simply perpetuating their existing behavior patterns.

5: a midpoint gathering of facilitators and hospital leaders from the various hospitals in the region at the 3-month point for refresher and advanced CREW training, and community building among participants. This meeting most effectively realizes the learning community because its primary activities are conversations among facilitators in which they share their challenges and solutions in implementing the CREW process.

6: a final gathering of facilitators and hospital leaders from the various hospitals in the region at the 6-month point for sustainability training and community building among participants. They receive a profile indicating changes on the basis of a second survey toward the end of the 6-month process.

The process provides accurate assessments by conducting a survey prior to commencing the meetings. At the closing gathering, they receive a profile indicating changes in these measures based on a second survey toward the end of the 6-month process. The initial profile focuses the process on unique qualities of each group, emphasizing the benefits of a tailored program.

CREW uses structured exercises to help participants move out of their comfort zone, such that they are not simply perpetuating their existing behavior patterns. By behaving differently in structured exercises, participants will initiate new patterns of interaction. Facilitators further that process by structuring the exercises and encouraging participation. From this perspective, the exact structure of the exercise has secondary importance; the essential quality of the process is interrupting the dominant, dysfunctional pattern of interaction.

The level of respect among employees defines a core value in an organizational culture. In many instances, members of hospital executives articulate this commitment in public statements and organizational communications. These statements play an important role by associating a core value for collegiality with organizational leaders.

**CREW components and Toolkit.**<sup>2</sup> As a resource for the weekly meetings, intervention group facilitators used a CREW Toolkit, which included descriptions of specific activities focused on improving colleague relationships. The Toolkit contains 40 exercises and discussion topics in addition to guidelines for group facilitation, forms for making reports, and background information on basic concepts regarding group dynamics. The facilitator may introduce specific conversational topics (e.g., "How do we show respect to one another here?" or "How do we show disrespect to one another here?"). The facilitator, with guidance from the research team's mentor, chooses whether to ask about respect or disrespect first, to ask about only one or the other, or to ask about neither. Other topics include attentiveness, accountability, cooperation, conflict resolution professionalism, camaraderie, disputes, rationales for justifying one's own rude behavior, and leadership.

Exercises include practice in active listening, settling disputes between a pair of other people, using metaphor in conflict resolution, force field analysis of likes and dislikes within a group, and brainstorming. The Toolkit includes activities to occur between CREW sessions, such as participants making commitments to enact specific civility behaviors with coworkers during the upcoming week, keeping logs of special contributions or acts of civility they witnessed during the week, and giving the CREW award of the week for exceptional contributions to respectful behavior on their units.

For example, one of the Toolkit exercises identifies disrespectful behavior as a challenge and provides examples and suggestions as how to identify it and effectively respond to it. Participants read a passage about how situations or conversations around unpopular

<sup>2</sup> More information about the intervention materials can be obtained from Michael P. Leiter upon request.

or difficult issues can arouse emotional responses in others, and how these situations should be addressed. Participants are then provided with several suggestions for responding to perceived disrespectful behavior in their work group (e.g., using “standard cues” or words that signal to the group when a member perceives disrespectful behavior, or when one inadvertently is disrespectful). The groups were provided with several scenarios to serve as an example of the intervention, and the participants were encouraged to talk about these interventions, make action plans for responding to this type of behavior, and delve into topics in greater detail.

The precise selection and sequence of activities varied according to the identified agendas of the different groups. The 6-month duration for the CREW process allows for participants to practice new ways of interacting with one another at work. In light of the emotionally charged quality of incivility, the process devoted the first few weeks to establishing positive social relationships as a topic for direct conversation. The process includes a series of exercises that encourage participants to interact differently with colleagues through the work week, reporting on their experience at subsequent meetings. Finally, in light of the self-perpetuating nature of social interactions, the process included sufficient time to address issues on multiple occasions rather than assuming that a single session could inspire sustainable change.

Research personnel (who had received training on group facilitation and effective communication strategies from experienced CREW leaders within Veterans Health) trained the unit facilitators in the CREW process. Facilitators in this study had considerable experience in providing in-service education and group facilitation in the course of their positions. The CREW training sessions integrated the CREW process into their existing facilitation skills.

The training included focused sessions at each participating hospital prior to the first community gathering (Point 3 in the schedule outlined previously). The training covered basic concepts of group facilitation, such as establishing a culture of trust, developing group rules as a shared process, and active listening. During the first community gathering, facilitators participate in role-plays with one another to conduct a trial run of a first CREW meeting. The exercise is designed to identify often-met challenges, such as participants’ reluctance to talk and participants who dominate conversations. Throughout the CREW implementation, the training is available through weekly phone calls with facilitators to discuss challenges and successes that arise during the week. The midpoint gathering (Point 5) provides a major experience for a shared learning community with facilitators learning from one another.

Success of CREW depends on commitment at all levels of the organization (Osatuke et al., 2009). On the executive level, participating organizations commit to devoting employee time and instrumental support to weekly conversations on civility. Facilitators, who are generally employees with leadership qualities and experience, commit to organizing and implementing weekly sessions. Employees commit to participating in the sessions. The ultimate goal of the project was to create capacity within the organizations to enable the integration of the CREW process into their organizational culture and daily operations.

#### Measures.

**Manipulation check.** On the Time 2 survey, respondents answered a question about their “familiarity with CREW” on a 6-point scale: 0 = *Never heard of CREW*, 1 = *Heard of it*, 2 =

*Know the basics*, 3 = *Observed a session*, 4 = *I’ve participated*, and 5 = *I’m a facilitator*. Intervention versus comparison group response frequencies were analyzed on this question as a basic indicator of differences in exposure to the intervention between the groups.

**Civility.** The CREW Civility Scale (Meterko, Osatuke, Mohr, Warren, & Dyrenforth, 2007) consists of eight items designed to measure the perceptions of workplace civility within a work group and across an organization (e.g., “A spirit of cooperation and teamwork exists in my work group”; “Disputes or conflicts are resolved fairly in my work group”; “This organization does not tolerate discrimination”). The items were rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In the present study, the internal reliability was high (Time 1  $\alpha = .88$ ; Time 2  $\alpha = .84$ ).

**Experienced incivility (supervisor and coworker).** The 10-item Workplace Incivility Scale (Cortina et al., 2001) assesses the frequency of health care workers’ experiences of workplace incivility, including disrespectful, rude, or condescending behaviors in the previous month. Using a 7-point Likert scale ranging from 0 (*never*) to 6 (*daily*), participants rated the extent to which they experienced each of five behaviors (e.g., “People treat each other with respect in my work group”) from their supervisor and from their coworkers. In the present study, the internal reliability was high for each dimension at Time 1 (supervisor:  $\alpha = .84$ ; coworker:  $\alpha = .85$ ) and Time 2 (supervisor:  $\alpha = .85$ ; coworker:  $\alpha = .86$ ).

**Instigated incivility.** Consistent with Blau and Andersson (2005), an additional dimension of instigated workplace incivility was included. Using a 7-point Likert scale ranging from 1 (*never*) to 7 (*daily*), participants rated their own behavior on each of the five items (e.g., “Ignored or excluded others from professional camaraderie”). In the present study, the internal reliability was high at Time 1 ( $\alpha = .74$ ) and Time 2 ( $\alpha = .80$ ).

**Respect.** Respect was measured using two items from the *Esteem Reward* section of the Effort-Reward Imbalance Questionnaire found in Siegrist et al. (2004) (i.e., “I receive the respect I deserve from my supervisors” and “I receive the respect I deserve from my colleagues”). A third item was created to capture organizational respect (i.e., “Overall, I receive the respect I deserve in this organization”). Responses were rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In the present study, the internal reliability for respect was  $\alpha = .71$  at Time 1 and  $\alpha = .73$  at Time 2.

**Trust in management.** Trust in management was measured by six items from Cook and Wall’s (1980) Trust in Management subscale of the Interpersonal Trust at Work Scale. This scale measures two aspects of trust: (a) faith in manager intentions and (b) confidence in manager competence. Items are averaged to obtain scores ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In the present study, the internal reliability was  $\alpha = .77$  at Time 1 and  $\alpha = .78$  at Time 2.

**Burnout.** The Emotional Exhaustion and Cynicism subscales of the Maslach Burnout Inventory-General Survey (MBI-GS; Maslach, Jackson, & Leiter, 1996; Schaufeli, Leiter, Maslach, & Jackson, 1996) were used to measure burnout. Participants used a 7-point Likert scale ranging from 0 (*never*) to 6 (*every day*) to rate the extent to which they experience exhaustion and cynicism at work (e.g., “I feel burned out from my work”). In the present study, the internal reliability for each subscale was high: Exhaust-



tion ( $\alpha = .91$ ), Cynicism ( $\alpha = .82$ ) at Time 1: Exhaustion ( $\alpha = .91$ ), Cynicism ( $\alpha = .84$ ) at Time 2.

**Turnover intentions.** Three items were modified from the Turnover Intentions measure developed by Kelloway, Gottlieb, and Barham (1999) and used to assess the intention to quit (“I plan on leaving my job within the next year”; “I have been actively looking for other jobs”; and “I want to remain in my job”). Each item was rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In the present study, the internal reliability was high at Time 1 ( $\alpha = .92$ ) and at Time 2 ( $\alpha = .93$ ).

**Professional efficacy.** Efficacy was measured using the Professional Efficacy scale of the MBI-GS (Schaufeli et al., 1996). Participants used a 7-point Likert scale ranging from 0 (*never*) to 6 (*every day*) to rate the extent to which they experience efficacy (e.g., “I feel exhilarated when I accomplish something at work”). In the present study, the internal reliability was high ( $\alpha = .75$  at Time 1, and  $\alpha = .79$  at Time 2).

**Organizational commitment.** Two items from the Affective Commitment Scale (Allen & Meyer, 1990) were used to assess organizational commitment. Using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), participants rated the extent to which they feel committed to their organization (e.g., “I do not feel like part of a family at my organization” [reverse coded]; “This organization has a great deal of personal meaning for me”). The correlation between these two items was high ( $r = .46$ ).

**Job satisfaction.** Five questions were created to measure job satisfaction using conceptual information from previous scales that have reliably measured this construct (Hackman & Oldham, 1975; Tsui, Egan & O’Reilly, 1992). Participants were asked to rate their level of satisfaction with (a) coworkers, (b) supervisors, (c) pay and benefits, (d) the feeling of accomplishment from doing the job, and (e) job overall. The ratings were measured on a 7-point Likert scale ranging from 1 (*very dissatisfied*) to 7 (*very satisfied*). In the present study, the internal reliability of job satisfaction was high:  $\alpha = .71$  at Time 1 and  $\alpha = .74$  at Time 2.

**Absenteeism.** Absenteeism was measured through self-reports and some aggregate institutional data. *Self-reported absences* were measured with a single item: “In the past month, on

how many occasions have you missed work due to illness or disability?” The average response from full-time employees to this item was 0.82 occasions per month, which is 9.82 occasions per year. For many participants, an occasion would translate into 1.5 standard work days because they work 12-hr shifts; therefore, 9.82 occasions equals 14.76 8-hr work days. Canadian nurses, who are the primary occupational group participating in this study, currently miss an average of 14 standard work days per year due to illness (Tomblin Murphy et al., 2009). The self-report item is consistent with this level.

## Results

**Manipulation check: Familiarity with CREW.** Before we tested the hypotheses, we wanted to ensure that individuals in the intervention group actually were more familiar with the program than those in the contrast group. The Time 2 item measuring self-reported familiarity with the CREW program was answered by 891 of the 907 individuals returning surveys. Responses confirmed that, as expected, the contrast group ( $n = 710$  for this question) had only minimal and ambient exposure to the intervention: 59.2% “Never heard of CREW” (420), 21.1% “Heard of it” (150), 15.1% “Know the basics” (107), 1.5% “Observed a session” (11), 2.7% “Participated” (19), and 0.4% responded “Facilitator” (3). The intervention group ( $n = 181$  for this question) had a much higher rate of actual attendance at CREW-related meetings: 5.5% “Never heard of CREW” (10), 11.6% “Heard of it” (21), 24.9% “Know the basics” (45), 9.4% “Observed a session” (17), 43.1% “Participated” (78), and 5.5% responded “Facilitator” (10). These relative frequencies were significantly different for the contrast versus intervention groups, Pearson  $\chi^2(5, N = 891) = 371.28, p < .001$ .

**Initial differences between CREW and contrast groups.** The correlations and descriptives of the study variables are presented in Table 1. As indicated in Table 2, the intervention and contrast groups differed on most measures at Time 1, with the CREW groups scoring more negatively on the constructs. The  $t$  statistics in Table 2 are the unstandardized fixed effect of the intervention group, divided by its standard error, and it represents the effect of being in the intervention versus contrast

Table 1  
Correlations Among the Study Variables at Time 1

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Civility	—	-.49	-.35	-.32	.53	-.22	-.36	-.26	.34	.51	.43	.39	-.02
2. Coworker incivility		—	.39	.50	-.36	.27	.35	.21	-.17	-.35	-.27	-.20	.06
3. Supervisor incivility			—	.34	-.42	.33	.39	.32	-.17	-.45	-.30	-.41	.05
4. Instigated incivility				—	-.21	.22	.37	.13	-.17	-.25	-.17	-.23	.03
5. Respect					—	-.36	-.43	-.39	.29	.61	.61	.59	-.07
6. Exhaustion						—	.56	.39	-.17	-.43	-.30	-.34	.07
7. Cynicism							—	.44	-.37	-.58	-.45	-.41	.06
8. Turnover intention								—	-.21	-.47	-.39	-.35	.04
9. Efficacy									—	.39	.32	.25	-.01
10. Satisfaction										—	.51	.55	-.05
11. Commitment											—	.49	-.03
12. Trust mgmt												—	-.03
13. Absences													—

Note.  $N = 1,107$ ; All correlations for Variables 1–12 are significant ( $p < .01$ ); for Variable 13, all correlations at .04 or over are significant. mgmt. = management.

Table 2  
Means, Standard Deviations, and Differences Between Control and CREW Units at Time 1: Simple Effect Tests (HLM)

Variable	Time 1				Time 2				Time 1 group differences simple effect tests (HLM)		
	CREW units		Contrast units		CREW units		Contrast units		β	t(39)	r <sup>2</sup>
	M	SD	M	SD	M	SD	M	SD			
Civility	3.58	0.73	3.72	0.70	3.82	0.52	3.76	0.58	-0.21	-1.92	0.72%
Coworker incivility	0.78	0.84	0.80	0.85	0.58	0.74	0.76	0.87	-0.01	-0.05	0.00%
Supervisor incivility	0.74	0.99	0.57	0.85	0.49	0.80	0.57	0.85	0.25	2.22*	1.26%
Instigated incivility	0.51	0.49	0.54	0.54	0.42	0.43	0.50	0.55	-.004	-0.06	0.00%
Respect	3.21	0.79	3.42	0.76	3.62	0.69	3.51	0.75	-0.21	-2.23*	1.07%
Exhaustion	3.21	1.57	2.73	1.42	2.76	1.49	2.65	1.42	0.54	3.21*	2.25%
Cynicism	1.89	1.41	1.65	1.26	1.36	1.27	1.55	1.28	0.28	1.77	0.35%
Turnover intentions	2.44	1.00	2.15	0.93	2.18	0.94	2.08	0.90	0.33	3.05*	1.85%
Efficacy	4.57	0.98	4.74	0.89	4.71	0.95	4.73	0.94	0.28	1.77	0.81%
Satisfaction	5.06	1.07	5.32	0.97	5.62	0.89	5.47	0.93	-0.34	-2.67*	1.50%
Commitment	3.16	0.92	3.30	0.90	3.49	0.88	3.43	0.82	-0.20	-1.36	0.34%
Trust in management	2.98	0.94	3.19	0.79	3.34	0.78	3.33	0.79	-0.22	-1.89	0.91%
Absences	0.88	2.31	0.86	2.04	0.54	1.07	0.83	2.00	0.14	0.66	—

Note. Variance accounted for listed as 0.00% when amount was so small that the variance calculation method (Snijders & Bosker, 1999) produced an (impossible) small negative value. Percentage of variance for absences not produced due to overdispersed Poisson distribution of variable. CREW = Civility, Respect, Engagement in the Workplace; HLM = hierarchical linear modeling. Dash indicates that r<sup>2</sup> could not be calculated reliably for this analysis.  
\* p < .05.

group on each measure (Level 1 units = individuals surveyed at Time 1, and Level 2 units = hospital units). Hospital units were coded either as a contrast group (0) or intervention group (1). Although the differences are statistically significant (which is typical with the large sample), the CREW group’s scores were not extremely negative relative to the contrast group. For example, the difference on civility is 0.14, which is only 0.20 of a standard deviation. Ideally, the two groups would not differ at Time 1, but we judged that these differences did not constitute a major challenge to the validity of the analysis.

**Differences between CREW and contrast groups after intervention.** Hypotheses 1–5 proposed an interaction between the CREW intervention and Time such that, compared with the contrast group, the intervention group would improve to a greater extent from Time 1 to Time 2, for five variables or clusters, respectively (civility, burnout, work attitudes, trust in management, and absences).

We tested these hypotheses with three-level hierarchical linear modeling (time within employee within work unit) using the hierarchical linear modeling (HLM) program (Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2004). The 2 × 2 interaction between time (Time 1 vs. Time 2) and intervention (CREW vs. contrast group) was tested by including a cross-level effect between Time at Level 1 and intervention group at Level 3. The time and intervention slopes (and their interaction effect) were treated as fixed effects, whereas the intercepts for time, person, and unit were random effects in the models. The equations composing the analysis were therefore as follows:

$$\text{Level 1 Model: } Y = P_0 + P_1 * (\text{Time}) + E.$$

$$\text{Level 2 Model: } P_0 = B_{00} + R_0$$

$$P_1 = B_{10}.$$

$$\text{Level 3 Model: } B_{00} = G_{000} + U_{00}$$

$$B_{10} = G_{100} + G_{101} (\text{Intervention}).$$

The improvements in group civility and incivility resulting from the CREW intervention are expected to alter the norms within the work unit regardless of fluctuating membership. Approximately 40% of our total sample (n = 472) completed the survey at both Time 1 and Time 2. Because HLM estimates parameters using all available information, respondents do not need to have completed the same number of survey time points (Raudenbush & Bryk, 2002). Instead, the program treats the repeat participants as correlated observations and nonrepeat participants as independent observations, in effect accomplishing a simultaneous between- and within-subjects analysis.

Hypotheses 1–3 involve conceptual groupings of outcomes (civility, burnout, and work attitudes) measured by several related scales. Although HLM is able to produce a multivariate test of parameters (Raudenbush et al., 2004; Snijders & Bosker, 1999; Tate & Pituch, 2007), the global test adds a fourth level to the model (measure within time within person within unit). Because our model already includes three levels, the maximum in HLM, we approximated a multivariate test of the Time × Intervention interaction for each variable cluster by collapsing the time and person levels together, using time as a between-subjects variable (three-level analysis thus becomes multiple measures, within observation, within unit). This approach does not account for the intercorrelation between repeated measures for the staff who completed the survey at both time points, but it does account for nesting within unit and multiple measures, providing the closest approximation available within HLM to a fully specified multivariate test. Unfortunately, it is not possible to model two separate sources of within-subject variation—from measure and from time—within a three-level HLM model. This approximate multivariate test otherwise precisely follows the procedures of Tate and Pituch (2007). The results align very closely with the univariate tests of the variable clusters and provide a check on the global strength of the interaction.

**Social context/civility.** The approximated multivariate test for the social context variables—civility, coworker incivility, supervisor incivility, instigated incivility, and respect—produced a significant Time × Intervention interaction,  $\chi^2(5, N = 907) = 12.46, p = .03$ , providing support for Hypothesis 1.

All five univariate interactions showed a greater improvement in civility in the intervention units than in the contrast units, with the civility, supervisor incivility, and respect measures reaching statistical significance. Table 3 reports the univariate tests, group means, and effect sizes for the social context variables. The *t* statistics reflect the regression coefficient from HLM divided by its standard error for the relevant parameter (either the overall univariate Time × Intervention interaction or the effect of time among just the intervention or contrast units).

In order to test simple effects and generate plots for significant interactions, Table 2 also reports the Time 1 to Time 2 change coefficients for intervention and contrast units separately. For the civility, supervisor incivility, and respect measures, the intervention units showed a significant improvement from Time 1 to Time 2, whereas the contrast units did not improve.

Figure 1 depicts a representative univariate interaction on supervisor incivility. For the figures, we plotted points by solving the simple effect HLM regression equations (change over time for CREW and contrast units separately) for Time 1 = 0 and Time 2 = 1 (Time was dummy coded in the data), and translating the points into standard deviation units of change from the grand mean. In Figure 1, for example, CREW units showed supervisor incivility that was, on average, .11 standard deviations above the grand mean at Time 1, but .18 standard deviations below the grand mean by Time 2. On the contrast units, supervisor incivility was .11 standard deviations below the grand mean at Time 1 and nearly identical at .10 standard deviations below the grand mean at Time 2. This method of presentation both allows equivalent presentation

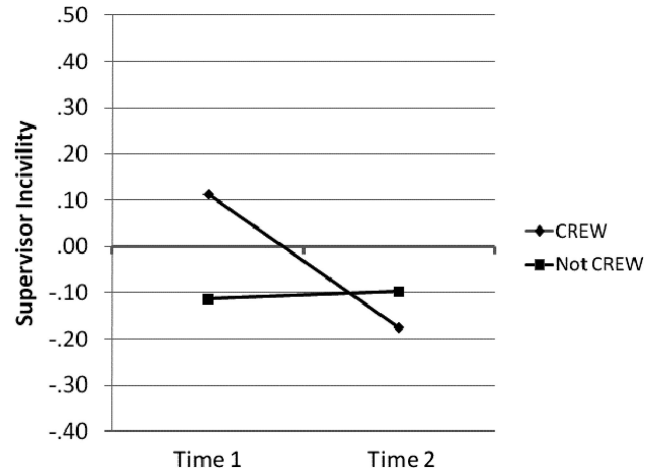


Figure 1. Interaction of supervisor incivility with intervention and time. CREW = Civility, Respect, Engagement in the Workplace.

for different scales of measurement and helps clarify issues of regression to the mean, discussed subsequently.

Effect sizes were calculated as the percentage of variance accounted for by the multilevel regression models compared with “null” models without the fixed effects entered, according to Snijders and Bosker’s (1999) method using pooled variances. The null models provide interesting data in their own right on the percentage of total variance in outcomes that exists at each level of nesting. For all self-reported outcomes, a large portion of the total variance exists between time periods (Level 1, percent ranged from 37% to 51%), a large portion exists between individuals (Level 2, range = 44%–59%), and a smaller portion exists between hospital

Table 3  
Univariate Tests (HLM) and Effect Sizes for Study Outcomes by Group

Variable	Time × CREW Intervention interaction effect			CREW group only: Time simple effect			Contrast group only: Time simple effect		
	β	<i>t</i> <sub>df</sub>	<i>r</i> <sup>2</sup>	β	<i>t</i> <sub>df</sub>	<i>r</i> <sup>2</sup>	β	<i>t</i> <sub>df</sub>	<i>r</i> <sup>2</sup>
Civility	0.12	1.95 <sup>*</sup> <sub>1634</sub>	0.13%	0.19	3.06 <sup>*</sup> <sub>340</sub>	3.24%	0.01	0.02 <sub>1293</sub>	0.04%
Coworker incivility	-0.08	-1.19 <sub>1634</sub>	0.30%	-0.11	-1.46 <sub>340</sub>	1.00%	-0.02	-0.50 <sub>1293</sub>	0.05%
Supervisor incivility	-0.17	-2.04 <sup>*</sup> <sub>1634</sub>	0.30%	-0.29	-3.09 <sup>*</sup> <sub>340</sub>	4.39%	0.02	0.40 <sub>1293</sub>	0.00%
Instigated incivility	-0.05	-1.12 <sub>1634</sub>	0.26%	-0.05	-1.51 <sub>340</sub>	0.86%	-0.01	-0.46 <sub>1293</sub>	0.07%
Respect	0.24	3.30 <sup>*</sup> <sub>1634</sub>	1.16%	0.38	5.11 <sup>*</sup> <sub>340</sub>	7.38%	0.05	1.31 <sub>1293</sub>	0.23%
Exhaustion	-0.20	-1.53 <sub>1634</sub>	0.02%	-0.41	-2.86 <sup>*</sup> <sub>340</sub>	2.17%	-0.07	-1.28 <sub>1293</sub>	0.07%
Cynicism	-0.28	-2.47 <sup>*</sup> <sub>1634</sub>	0.08%	-0.46	-3.55 <sup>*</sup> <sub>340</sub>	4.03%	-0.05	-0.93 <sub>1293</sub>	0.08%
Turnover intentions	-0.06	-0.67 <sub>1634</sub>	0.08%	-0.21	-2.15 <sup>*</sup> <sub>340</sub>	1.75%	0.003	0.07 <sub>1293</sub>	0.00%
Efficacy	0.42	5.52 <sup>*</sup> <sub>1634</sub>	0.05%	0.11	1.35 <sub>340</sub>	0.39%	-0.002	-0.06 <sub>1293</sub>	0.01%
Satisfaction	0.36	4.12 <sup>*</sup> <sub>1634</sub>	1.86%	0.56	6.23 <sup>*</sup> <sub>340</sub>	9.21%	0.12	2.93 <sup>*</sup> <sub>1293</sub>	0.59%
Commitment	0.20	2.41 <sup>*</sup> <sub>1634</sub>	1.14%	0.35	4.15 <sup>*</sup> <sub>340</sub>	5.00%	0.10	2.52 <sup>*</sup> <sub>1293</sub>	0.55%
Trust in management	0.16	2.12 <sub>1654</sub>	1.09%	0.31	3.94 <sup>*</sup> <sub>371</sub>	4.42%	0.10	2.59 <sup>*</sup> <sub>1328</sub>	0.59%
Absences	-0.63	-4.32 <sup>*</sup> <sub>1554</sub>	—	-0.43	-2.84 <sup>*</sup> <sub>331</sub>	—	0.27	3.93 <sup>*</sup> <sub>1222</sub>	—

Note. The group means for Turnover intentions and Absences show a slight Time 1 to Time 2 decrease for the Contrast group, whereas the HLM parameters show a very small increase. This inconsistency is due to different calculation methods. HLM nests the data properly, accounting for repeated respondents and unit membership, whereas descriptive means do not. The HLM parameters are more accurate. Absences analysis includes full- and part-time employees only, percentage of variance not calculated, and nonlinear HLM with an overdispersed Poisson distribution applied due to nonnormality of absence data. HLM = hierarchical linear modeling; CREW = Civility, Respect, Engagement in the Workplace. Dashes indicate that *r*<sup>2</sup> could not be calculated reliably for this analysis.

\* *p* < .05.

units (Level 3, 2.4%–7.3%). For each self-reported outcome variable, after accounting for the time, intervention, and Time × Intervention effects, there was still additional variance at Levels 2 and 3 left to explain for all social context variables according to the significance tests for random variance components (all  $ps < .001$ ).

**Burnout and turnover intention.** The approximated multivariate test for the burnout measures—exhaustion and cynicism—and turnover intention—produced a significant interaction of Time × Intervention group,  $\chi^2(3, N = 907) = 8.40, p = .04$ , providing support for Hypothesis 2. The univariate interactions for all three measures showed a greater improvement in burnout and turnover intention among intervention units than among contrast units, with the cynicism measure reaching statistical significance. Simple effects showed that the improvement in cynicism from Time 1 to Time 2 was significant for the intervention units, but it was nonsignificant for the contrast units. Table 3 reports the univariate tests, group means, effect sizes, and simple effects for the burnout and turnover intention variables. Figure 2 depicts a representative univariate interaction on cynicism.

**Job attitudes.** The approximated multivariate test for the job attitude measures—professional efficacy, organizational commitment, and job satisfaction—produced a significant Time × Intervention interaction,  $\chi^2(3, N = 907) = 11.12, p = .01$ , providing support for Hypothesis 3.

Each of the three univariate interactions showed a greater improvement in job attitudes among intervention units than among contrast units, with the job satisfaction and commitment measures reaching statistical significance. Simple effects showed that although the improvements in satisfaction and commitment from Time 1 to Time 2 were significant for both the intervention and contrast units, the size of the change was much larger for the intervention group (i.e., 9.21% variance for job satisfaction in the intervention group, compared with 0.59% variance in the contrast group). Table 3 reports the univariate tests, group means, effect sizes, and simple effects for the job attitude variables. Figure 3 depicts a representative univariate interaction on supervisor incivility.

**Trust in management.** The HLM model for trust in management showed a significant Time × Intervention interaction,

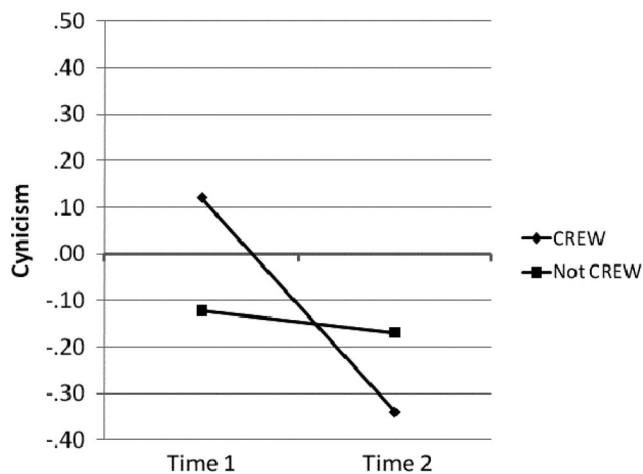


Figure 2. Interaction of cynicism with intervention and time. CREW = Civility, Respect, Engagement in the Workplace.

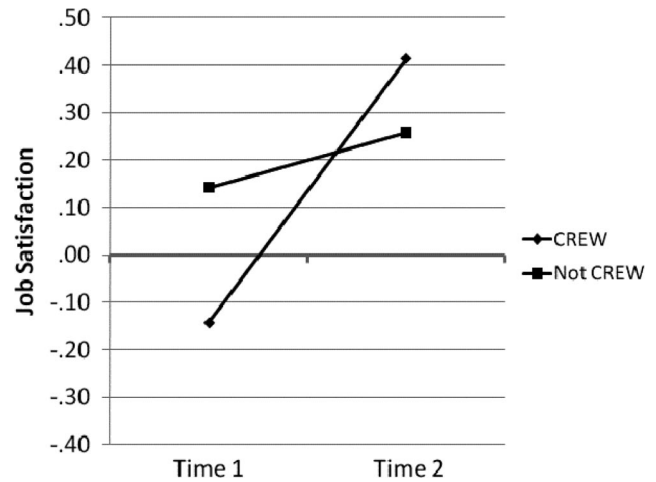


Figure 3. Interaction of job satisfaction with intervention and time. CREW = Civility, Respect, Engagement in the Workplace.

with greater improvement in trust among intervention units than among contrast units, providing support for Hypothesis 4. Simple effects showed that although the improvement in trust from Time 1 to Time 2 was significant for both the intervention and contrast units, the size of the change was larger for the intervention group (4.42% variance in the intervention group, compared with 0.59% variance in the contrast group). Table 3 reports the univariate tests, group means, effect sizes, and simple effects for the job attitude variables. Figure 4 displays the interaction.

**Absences.** Due to the highly nonnormal nature of absence data (count data with a large number of zero values), we conducted nonlinear hierarchical modeling for this test using an overdispersed Poisson regression within HLM. The model for absences produced a significant Time × Intervention interaction, providing support for Hypothesis 5. Although absences decreased for both the intervention and contrast groups, the change coefficient was stronger for the intervention group.

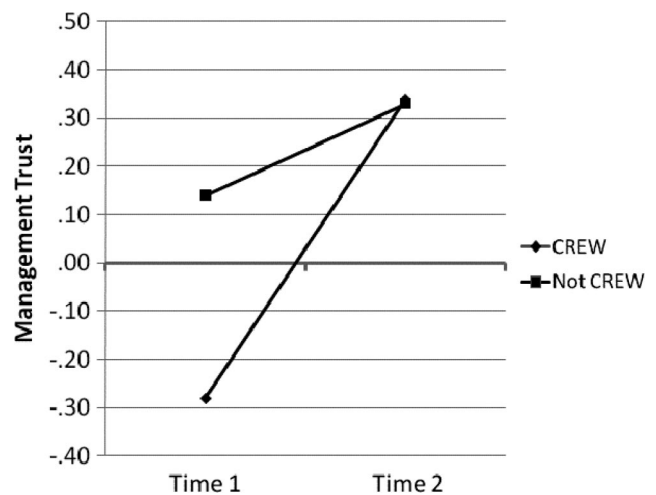


Figure 4. Interaction of job satisfaction with intervention and time. CREW = Civility, Respect, Engagement in the Workplace.

Table 2 reports the univariate test, group means, and simple effects for absences. We omitted percentage of variance existing at each level of the model and percentage of variance accounted for by the model because, to our knowledge, satisfactory calculation methods do not yet exist for hierarchical data with an overdispersed Poisson distribution (Roberts & Monaco, 2006). However, the practical import of the results for absences is noteworthy (see Figure 5), with absences for the intervention groups dropping by over one third (.88 days per month to .54 days per month), whereas the contrast group's absences remained nearly constant at .86 and .83 days per month.

**Mediation.** According to Muller, Judd, and Yzerbyt (2005), a case is made for mediated moderation if (a) the Time  $\times$  Intervention interaction is significant in predicting the dependent variable (DV), (b) the Time  $\times$  Intervention interaction is significant in predicting the proposed mediator (MED), (c) The MED is significant when added, along with a MED  $\times$  Intervention term, to the model predicting the DV, and (d) The Time  $\times$  Intervention interaction is reduced in Step c compared with Step a (Case 2, Muller et al., 2005).

To test Hypothesis 6, we tested for mediation in HLM for every DV with a significant univariate Time  $\times$  Intervention interaction (cynicism, organizational commitment, job satisfaction, trust in management, and absences), because these variables met Condition a. The civility variables that met Condition b as potential MEDs were respect, civility, and supervisor incivility. We then entered these three potential MEDs and their associated MED  $\times$  Intervention terms in the predictive models to provide a joint test of whether, as a group, they mediated the effect of Time  $\times$  Intervention on each DV according to Conditions c and d.

**Cynicism.** The significant Time  $\times$  Intervention interaction on cynicism was fully mediated by the civility variables. The mediators were each significant (all  $ps < .001$ ), meeting Condition c, and the Time  $\times$  Intervention interaction was thereby reduced

(from  $-0.28$ ) to nonsignificant ( $-.09$ ),  $t(1628) = -0.73$ ,  $p = .47$ , meeting Condition d.

**Organizational commitment.** The significant Time  $\times$  Intervention interaction on organizational commitment was also fully mediated by the civility variables. The respect and CREW mediators were each significant ( $ps < .001$ ), meeting Condition c; however, the supervisor incivility effect was not significant ( $p = .99$ ), and the Time  $\times$  Intervention interaction was thereby reduced (from  $0.20$ ) to nonsignificant ( $0.02$ ),  $t(1628) = 0.25$ ,  $p = .80$ , meeting Condition d.

**Job satisfaction.** The significant Time  $\times$  Intervention interaction on job satisfaction was partially mediated by the civility variables. The mediators were each significant (all  $ps < .001$ ), meeting Condition c, and the Time  $\times$  Intervention interaction was thereby reduced (from  $0.36$ ) to a lower significance level ( $0.17$ ),  $t(1628) = 2.22$ ,  $p = .03$ , meeting Condition d.

**Management trust.** The significant Time  $\times$  Intervention interaction on management trust was fully mediated by the civility variables. The mediators were each significant (all  $ps < .001$ ), meeting Condition c, and the Time  $\times$  Intervention interaction was thereby reduced (from  $0.16$ ) to nonsignificant ( $0.04$ ),  $t(1585) = 0.59$ ,  $p = .56$ , meeting Condition d.

**Absences.** The significant Time  $\times$  Intervention interaction on absences, however, was not mediated by the civility variables. None of the mediators was significant ( $ps = .17-.99$ ), and the Time  $\times$  Intervention was not substantially reduced (from  $-.65$  to  $-0.59$ ),  $t(1527) = -3.50$ ,  $p = .001$ , failing to meet Conditions c and d.

**Variability in intervention implementation strength.** As previously noted, intervention units' exact implementation of the CREW intervention varied by design, because units tailored the format and content of the civility exercises to the emerging concerns of the unit members. We also observed variability in how strongly the CREW intervention was implemented across intervention units. In order to describe and categorize this variability, subject matter experts were used 4 months after we completed the CREW intervention. Three members of our research group served as primary resource persons and points of contact for the CREW facilitators. The three resource people had a discussion to rate each CREW unit on their implementation on the following scale:

1 = Mild CREW implementation.

These units implemented most required elements of the CREW protocol (survey results, kickoff, defining respect and civility/incivility, and at least one other meeting), but they did not establish regular or frequent meetings, and the strength of involvement among unit members was mild or highly varied.

2 = Average CREW implementation.

These units implemented all required elements of the CREW protocol (survey results, kickoff, defining respect and civility/incivility, and establishing regular meetings on civility problems and issues) but did not go "above and beyond" these elements. The strength of involvement among unit members was moderate.

3 = Excellent CREW implementation.

In addition to implementing all required elements of CREW (survey results, kickoff, defining respect and civility/incivility, and establishing regular meetings on civility problems and issues), these units demonstrated strong and cohesive involvement in CREW, wide participation, many meetings, and creative extras (i.e., postings on walls in staff areas summarizing the results of

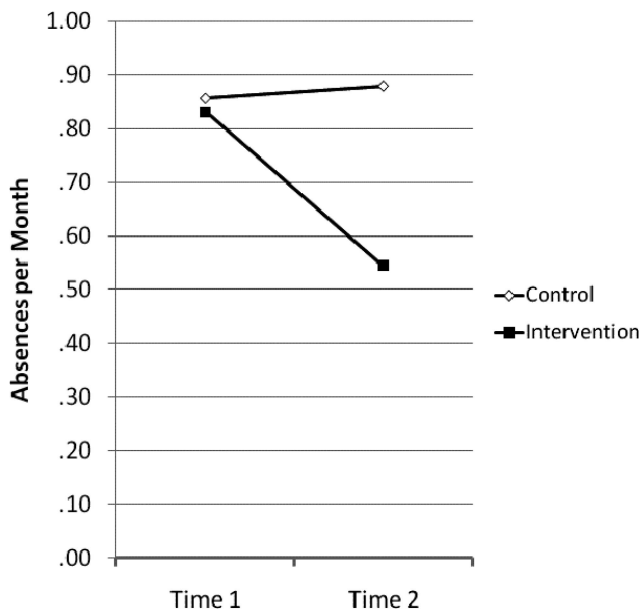


Figure 5. Interaction of absences with intervention and time.

discussions about incivility incidents for reflection during break times).

Three intervention units were categorized as “mild implementation,” two were categorized as “average,” and three were categorized as “excellent.” This variability in the implementation strength of the CREW intervention provides an opportunity to model whether strength of implementation among intervention units is systematically related to how much change occurred on the outcome variables. Therefore, we conducted post hoc analyses regarding the impact of CREW implementation strength on the amount of Time 1 to Time 2 change on the eight CREW units. We note, however, because we are dealing with only eight units, power for such an analysis is quite low.

As with our main analyses, we conducted three-level HLM (time within employee within work unit) on every dependent measure, including only the eight CREW units. Level 1 modeled change from Time 1 to Time 2, Level 2 simply noted the identity of the employee, and Level 3 indicated unit membership, with the implementation strength rating (1 = *Mild*, 2 = *Average*, 3 = *Excellent*) as a unit-level predictor. The cross-level effect between time at Level 1 and implementation strength at Level 3 was the parameter of interest for our present purposes, and significance indicates that implementation strength explains some of the change that occurred on CREW units on a particular outcome. The time and implementation strength slopes (and their interaction effect) were treated as fixed effects, whereas the intercepts for time, person, and unit were random effects in the models.

We tested models for all dependent measures, yet the only dependent measure for which implementation strength significantly predicted the amount of Time 1 to Time 2 change among CREW units was on the civility scale: Time  $\times$  Implementation Strength coefficient = 0.16,  $t(339) = 2.07$ ,  $p = .04$  (model percentage of variance accounted for = 6.89%). This coefficient indicates that each one-unit increase in implementation strength (such as from *Mild* = 1 to *Average* = 2, or from *Average* = 2 to *Excellent* = 3) is associated with a 0.16-unit increase in the Time 1 to Time 2 slope for civility. In other words, civility had a steeper improvement from Time 1 to Time 2 the stronger the CREW implementation. However, as this was the only significant effect among many similar tests, we cannot rule out a Type I error, and by and large this analysis suggests that although the implementation strength of the intervention varied between CREW intervention units, this variability did not generally predict any differences in the Time 1 to Time 2 change slopes among units on the outcome variables. We also note that we were unable to calculate the amount that individual change and unit change varied, across individuals and across units, respectively, because of the limitations of degrees of freedom inherent in having only two levels of time and only a small number of units.

## Discussion

The results demonstrated a positive impact of the CREW intervention: Among CREW intervention units, there were meaningful improvements in health care workers' reports of unit civility, burnout, job attitudes, management trust, and absences after 6 months of the intervention. This improvement was substantially greater than the improvement in contrast units within the same hospital facilities. Our results support Osatuke et al.'s (2009)

findings, and they extend their work to address critical issues pertaining to coworker relationships, job burnout, and work attitudes and behaviors. The results pertaining to absences were especially encouraging in that improvements in attendance have major cost savings implications for hospitals. The study makes an important contribution by providing longitudinal research on these questions and by implementing an intervention designed to enhance employees' quality of work life through improved social relationships at work.

The explicit focus of the CREW intervention is changing the social environment of work groups by improving civility. CREW exercises take a variety of forms with the essential quality that they interrupt the dominant, dysfunctional nature of relationships, permitting work groups to establish constructive alternatives. The improvements in the positive behaviors of civility and respect demonstrate that people can learn to produce more positive social behavior and be motivated to act accordingly at work. The civility measure includes specific references to the consideration that work group members show toward one another, their capacity to resolve conflicts, and their willingness to be attentive to one another. These attitudes and behaviors are all qualities of supportive social environments that give a sense of belonging that confirms self-worth, security, and trust. The civility measure also includes items that directly consider how the workplace's culture accommodates differences and encourages diversity. An increase in this measure reflects progress on the micro level of coworker interactions as well as on the broader values implicit in organizational policies and leadership. It is encouraging also that greater improvements on this measure occurred on units that accomplished stronger CREW implementation.

The results indicated improvements in incivility from both supervisors and coworkers. The general reduction in incivility demonstrates that CREW not only encouraged positive social behavior but also discouraged acts that conveyed rudeness and lack of consideration. The value of treating one another with civility, not rudeness, pertains to employees regardless of their status in the organization. Organizational cultures generally accommodate distinct modes of conduct across status levels (Keltner, Gruenfeld, & Anderson, 2003), so the broad impact of CREW across status level argues for its broad applicability.

The finding of reduced cynicism is unusual in the research literature (Maslach & Goldberg, 1998; Schaufeli, Leiter, & Maslach, 2009), because cynicism typically has great persistence, such that relatively few people change their scores on these measures over the course of 1 year (Halbesleben & Buckley, 2004; Maslach & Leiter, 2008; Maslach, Schaufeli, & Leiter, 2001). This finding also is interesting because the CREW process does not address burnout explicitly. The extent to which the core aspects of burnout changed in response to a process focused on civility suggests an important role for social relationships in the experience of burnout. That is, improving employees' relationships may be an effective means to address job burnout. A substantial body of cross-sectional and longitudinal research has identified strong, consistent relationships of social support with burnout, especially the cynicism aspect of the syndrome (Bakker, Schaufeli, Sixma, Bosveld, & Van Dierendonck, 2000; Leiter & Maslach, 1988). The interaction effect of burnout and turnover intention demonstrates a distinct contribution of the CREW process for employees' connection with their work life and their well-being.

The results in job attitudes and management trust indicate that improved social relationships not only diminish employees' tendency to withdraw from their work settings, they actively draw employees toward a more engaged connection with work. Increased commitment, satisfaction, and professional efficacy reflect an environment that fulfills employees' need for belonging and self-worth. A potential mechanism for collegiality to affect these qualities is increased opportunity for recognition not only from supervisors but also from coworkers. These findings provide support to the "broaden and build" model that argues that access to positive resources at work broadens employees' perspective, allowing them to build on opportunities that they would otherwise overlook when experiencing stress (Fredrickson & Branigan, 2005).

The results for absences were encouraging, with a statistically significant interaction. Absences represent a meaningful cost issue to hospitals and reflect a sense of well-being among workers. A reduction in absences is also consistent with declines in other forms of withdrawal: cynicism and turnover intention.

In summary, although there were significant interactions for eight outcomes, five of the 13 outcomes in the study (i.e., coworker incivility, instigated incivility, exhaustion, turnover intention, and efficacy) did not have significant univariate interactions. However, all of these five outcomes did have nonsignificant changes in the predicted direction. The lack of significant univariate interaction may reflect the relatively large variances in some measures or insufficient measurement precision. The findings reported here encourage further investigation of these indicators in future research.

**Size of the change.** Changes in intervention group scores reflected meaningful improvements in health care workers' individual outcomes. For example, respect improved by .52 standard deviations (compared with .12 *SD* in the contrast group), cynicism improved by .38 standard deviations (compared with .08 *SD* in the contrast group), job satisfaction improved by .52 standard deviations (compared with .15 *SD* in the contrast group), and absences improved by .15 standard deviations (compared with .01 *SD* in the contrast group). These improvements are meaningful in critical measures. First, the change in the CREW groups is 4 times greater than changes in the corresponding measure in the contrast groups. For example, the cynicism measure, decreased from 1.89 (i.e., above the normative mean) to 1.36 (i.e., considerably below the normative mean; see Maslach et al., 1996, for norms), which represents a substantial change in this construct. The change in absences provides a concrete indicator of meaningful change. The 0.34 decrease of monthly absences from 0.88 to 0.54 covers 38% of the range from the initial level to zero absences. The cost of lost time to absences for only one of the five hospitals in our study is \$25 million annually. A 38% decrease in this cost would have a meaningful impact on this organization.

The mediation analysis provided convincing evidence that changes in civility played a pivotal role in relation to the attitudinal measures in the study. This pattern follows the central principles of the CREW approach that views civil working relationships as the infrastructure for effective, healthy workplaces. Improving the quality of these relationships has broad implications for employees' experience of their work environments.

**Limitations and future research.** From a research design perspective (Campbell & Fiske, 1959), a completely consistent

intervention process applied to units with identical baseline conditions would increase internal validity. We worked with units that shared core problems associated with collegiality, but the forms of these challenges were diverse. Some units had a long history of collegial incivility; other units were uncommunicative; others were functioning well but aspired to more cohesive teamwork. The facilitators adapted the CREW methods to the specific challenges for those units. Although it is difficult (and even undesirable) to create and maintain an identical intervention across all units, future studies should keep detailed records of any and all variations among the units.

We note that one possibility clouding interpretation of these significant interactions could be the fact that the Time 1 differences between intervention and contrast units, followed by the similarity in means at Time 2, could possibly represent not a treatment effect but simply regression to the mean.<sup>3</sup> It is important to emphasize that most intervention units were not in urgent need, and were similar to the contrast units. Hospital administrators and members of the research team concurred, however, that three intervention units were in urgent need of civility improvement at baseline. To test empirically whether these units had a pattern of data consistent with the phenomenon of regression to the mean, we retested all variables with a significant univariate Time  $\times$  Intervention interaction (civility, supervisor incivility, respect, cynicism, job satisfaction, organizational commitment, trust in management, and absences) using a three-group version of intervention (labeled as *Intervention/Severity*, in which 0 = contrast groups, 1 = intervention groups *without* urgent need, 2 = intervention groups *with* urgent need).

The Time  $\times$  Intervention/Severity interaction was significant in HLM for all these variables tested, with the exception of civility. The pattern of Time 1 to Time 2 change among the urgent need groups was mainly consistent and not in line with the phenomenon of regression to the mean. The urgent need intervention participants were indeed worse than both other groups on most measures at Time 1, but they did not "regress to the mean." They well surpassed the mean of the control group on many measures, ending best of all three groups. On a majority of measures, the "urgent need" group was substantially better off than the control group at Time 2. The supervisor incivility and civility measures show a pattern of the urgent need group returning to a similar level to other groups at Time 2; however, because this is not the general tendency in the data, this interpretation does not seem tenable. Therefore, the CREW intervention is associated with improvements in civility and related organizational outcomes observed, and it is relevant to work groups who need it most (i.e., those groups experiencing an urgent problem with workplace civility). Combined with our findings that (a) civility variables mediated the effect of the CREW intervention on outcomes and (b) more intense CREW implementation was associated with stronger treatment effects, these supplementary analyses increase our confidence that the civility intervention was a mechanism for broad work life improvements among CREW units.

Many of the contrast units in the study participated to varying extents in other quality-of-work life programs. Therefore, our

<sup>3</sup> We thank an anonymous reviewer for bringing this issue to our attention.

analyses do not examine the effectiveness of CREW to a formally defined comparison group, but to units that were making other sincere attempts to address employees' challenges in workplace health and fulfillment. This environment may explain across-the-board improvements in some of the measures and provides an even more rigorous test of our hypotheses. That is, regardless of these overall improvements, the interaction effects demonstrated that CREW provided an effective intervention on these constructs. The research context reflects the day-to-day patterns in health care organizations, allowing gains in external validity to offset costs to internal validity. Future research should try to control for these extraneous effects, and they may address questions about the varying effectiveness of specific aspects of the intervention. Finally, it may be valuable to examine the impact of various aspects of the overall organization (e.g., industry, culture, commitment to "healthy workplaces") on the effectiveness of specific interventions.

Another limitation is reliance on a single source of data through questionnaire responses. The scales used in the present study have excellent records for validity. They reflect the emphasis of relationship constructs on employees' interpretation of their social interactions. Incivility or civility is not simply a matter of objective events but reflects how people make sense of those interactions, especially assigning intention to the other person's behavior. Although the questionnaire data has limitations, the format directly assesses the experiences at the focus of the intervention. These considerations reduce the extent to which common method variance dominates relationships among variables (Spector, 2006). Nonetheless, future research should examine the effectiveness of this type of intervention using organizational data with multiple ratings of collegiality and civility. The primary issue in our research is that the intervention units changed to a greater extent than did the comparison units. Common method variance does not explain that difference.

**Organizational implications.** The results have obvious practical implications. Incivility among colleagues is a major problem in the health sector and in many other sectors. Its negative employee and organizational outcomes can be costly in terms of absences, turnover, poor cooperation, and complaints. Our research has provided support for an intervention that can help organizations increase civility, and improve other outcomes, such as reduced burnout, more positive attitudes toward work, and greater trust. Most fundamentally, the results demonstrate that work groups can improve the quality of their relationships; organizations need not endure ongoing coworker incivility.

In conclusion, this study provides converging evidence for the efficacy of the CREW intervention to improve civility and social relationships at work with implications for employees' experience of job burnout, their positive attitudes toward work, and their evaluation of their management environment.

CREW has the potential to increase reciprocity in social relationships through its focus on developing the social behavior of all members of a working group. By improving these social behaviors, the process has a potential to further positive work interactions that are self-sustaining. The results support the utility of planned improvements in these aspects of work, and they demonstrate that improving workplace civility has broad implications for employees' relationships with work.

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Received August 25, 2009

Revision received January 31, 2011

Accepted February 7, 2011 ■