

**An Evaluation Study on the Impact of Preventative Conflict Management on Written  
Grievances, Department Culture, and Retention**

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## **Abstract**

We analyzed an eight-year multi-source longitudinal data set that followed a non-union healthcare system in the Eastern United States as it implemented a major preventative conflict management initiative placing responsibility for conflict resolution directly in the hands of line managers and employees. The initiative consisted of confrontation meetings with over one third of the departments in the healthcare system followed by the implementation of system-wide training for conflict management interviews (CMIs) to take place between employees and supervisors, designed to enable them to proactively resolve conflict and follow up on agreements for improving their working relationships. Analyzing survey and personnel file data from 5,449 individuals from 2003 to 2010, we tested key predictions of Integrated Conflict Management Systems (or ICMS) theory, finding that employees whose managers provided high-quality conflict management interviews had a lower likelihood of written grievances, significantly more functional department cultures, and had lower turnover rates.

Workplace conflict is widespread and costly. Estimates suggest that United States (US) employees spend 2.8 hours per week dealing with unnecessary conflict, corresponding to approximately \$359 billion in paid hours and 385 million working days (CFP Global 2008). Conflict is costly for various reasons, including those associated with the escalation of conflict into formal processes (e.g., arbitration and legal fees), as well as wasted time, distractions for individuals and departments, absenteeism, and turnover (Bingham and Cachere 1999). Perhaps the most damaging outcome of conflict is dysfunctional organizational culture that stifles change, innovation, and organizational effectiveness (Conbere 2001). Not surprisingly, conflict management initiatives and procedures have become prevalent, even outside unionized firms (Colvin 2003). Recent estimates suggest that at least 30% of Fortune 1000 corporations have implemented some type of conflict management program (Lipsky 2015).

*Integrated Conflict Management Systems* (or hereafter ICMS) represent an advanced form of conflict management (Costantino and Merchant 1996; Bingham and Cachere 1999; Lipsky, Seeber, and Fincher 2003). ICMS are “a systematic approach to preventing, managing and resolving conflict within the organization” (Gosline et al. 2001: 8). We will not take the time to review every aspect of ICMS here (see above references for a comprehensive review), but rather draw attention to three of their defining characteristics: First, ICMS are designed to be *preventative rather than reactive*. Nearly all ICMS emphasize the importance of preventing conflicts from occurring or escalating into serious grievances that require expensive and time-consuming formal processes (Rowe 1997; Lynch 2001). Not all conflicts are preventable. However, ICMS foster proactivity by educating and shifting the responsibility for conflict resolution directly to managers and employees themselves, rather than on ombudspersons, HR departments, professional mediators, arbitrators, or outside counsel (Ewing 1989; Carter 1999;

Gosline et al. 2001; Bendersky 2003; Lipsky et al. 2003; Roche and Teague 2012). ICMS endeavor to resolve conflicts at the lowest level possible to avoid involvement of higher levels of management or external parties (Costantino and Merchant 1996). Conbere (2001) argued that traditional conflict management practices which deflect responsibility away from managers and workers and unintentionally impede change, exacerbate conflict and create a dysfunctional culture.

A second defining characteristic of ICMS is an emphasis on practices that provide long-term follow through and accountability (Conbere 2001; Lipsky et al. 2003). There is widespread consensus among ICMS that employees and managers not only need to be educated on conflict resolution techniques, but also have access to and incentives for participating in accountability and follow-up mechanisms to ensure that conflicts stay resolved (Costantino and Merchant 1996; Rowe 1997; Bingham and Cachere 1999; Lipsky et al. 2003).

A third defining characteristic is that ICMS seek a fundamental change in the culture of organizations by encouraging trust, effective communication, productive working relationships, motivation, and leadership (Bingham and Cachere 1999; Conbere 2001; Lipsky et al. 2003; Lynch 2003; Buss 2011). Gosline et al. (2001) observed that ICMS promote a “culture that encourages employees to address their differences constructively” enabling the preventative focus noted above. Contrasting ICMS with traditional conflict management, Lipsky et al. (2003) noted that “organizations...must go well beyond this smaller set of processes and into more facets of organizational life, the involvement of more parts of the organization and a more complex system. They spread the responsibility for conflict and its resolution to the lowest levels of the organization. They seek to *transform* the organization, not just implement a set of processes” (2003: 9, emphasis added). Similarly, ICMS seek to promote the effectiveness of

organizations by minimizing avoidable turnover. Indeed, a key predicted outcome associated with the implementation of ICMS is a reduction in turnover rates (Lipsky et al. 2003).

### **Purpose**

In summary, a central premise of ICMS theory is that, if implemented properly, they can prevent or reduce conflict escalation to formal grievances, improve department culture and reduce turnover (Costantino and Merchant 1996; Bingham and Cachere 1999; Conbere 2001; Gosline et al. 2001; Lynch 2003; Buss 2011). Yet as Lipsky et al. (2003) observed, empirical research on organizational effectiveness outcomes remains scarce. Most ICMS evaluation research is limited to understanding procedure-related perceptions such as accessibility, likelihood of future use, and fairness and impartiality of facilitators. “Many claims have been made for the overall organizational impact of the proper introduction of conflict management systems in a variety of publications. Yet is in this area that there is the *most speculation and the least evidence*” (Lipsky et al. 2003: 237, emphasis added). Moreover much of what we know about the efficacy of ICMS interventions comes from qualitative research, observational methods, and case studies (Bingham and Pitts 2002; Nabatachi and Bingham 2010). Although process and decision perception outcomes are important in their own right, they do not give a complete picture about the extent to which ICMS accomplish many of the long-term organizational effectiveness objectives that are central to their purpose (Costantino and Merchant 1996; Bingham 2004; Costantino 2009; Roche and Teague 2012; Lipsky 2015).

To fill this gap, we conducted an evaluation study of a major preventative conflict management initiative in a US healthcare system in the Eastern US over an eight-year period. This initiative had multiple components which we will detail below, but its primary focus was on training and enabling employees and supervisors to take primary responsibility for solving

conflict themselves, via two specific practices: First, over one third of the departments across the health system participated in three-day confrontation meetings with a facilitator that were designed to not only help department members resolve their existing conflicts, but also to train them how to facilitate conflict resolution on their own, within their work units. Second, all managers in the system were trained to hold regular (i.e., monthly) *Conflict Management Interviews* (or CMIs) with their subordinates. CMIs are interviews between supervisors and employees specifically designed for parties to discuss a wide array of work problems and proactively prevent or resolve interpersonal conflict through integrative problem-solving before they escalate to formal grievances. CMIs also provide a mechanism for parties to enter into contracts or agreements for their work interactions, with follow-up in the future to improve accountability. These initiatives provided us a unique opportunity to test key elements of ICMS theory. Using a combination of survey and administrative data, we utilized fixed effects panel regression models to test how line managers' participation in CMIs with their employees affected written grievances, their employees' perceptions of department culture, and actual retention over an eight-year period.

### **Contributions**

Our study advances the literature in multiple ways. First, it represents a rare empirical test of two key characteristics of ICMS management systems: a) the shifting of responsibility for conflict resolution to employees and supervisors in work units, and b) significant organizational investment in long-term follow-up to resolve and prevent future conflict. Second, we examine three outcome variables that illustrate defining objectives for ICMS systems: a) the prevention or minimization of conflict escalation to written grievances, b) the improvement of organizational culture and c) maximization of employee retention. Third, our study advances the literature by

integrating ICMS theory (from industrial relations) with organization development (OD) theory to provide further insight into how to effectively implement a conflict management system. Fourth, and finally, to our knowledge, this is the first study of its kind to test the efficacy of employee and supervisor focused conflict interventions with a longitudinal research design using a combination of survey and administrative data. We now briefly review the interventions that provided an impetus for this study, then draw on ICMS and Organizational Development literature to derive our hypotheses.

### **The Conflict Management Intervention**

Facing numerous operational, financial, and regulatory challenges, a regional healthcare system in the Eastern US implemented a significant conflict management initiative as a primary strategy for remaining competitive in their regional market. The new CEO, hired externally in 2001, promptly implemented the organization-wide preventative conflict management initiative. Having helped transform a dysfunctional health system in another state, the CEO championed the conflict management initiative, believing that prevention and quick resolution of interpersonal problems and disputes were keys to successful organizational change. He endeavored to create a culture wherein employees were empowered to solve their own problems rather than escalate them, speak up when they encounter errors or have concerns, and develop greater mutual trust with their supervisors and coworkers.

With the help of an OD consultant, the CEO and leadership team (with employee representation) of the healthcare system designed and implemented a two-pronged conflict management initiative that applied many of the defining characteristics of ICMS, described at the outset of this paper. This system had two critical components beyond the organization's long-

standing informal<sup>1</sup> dispute resolution system: confrontation meetings for departments, and system-wide CMI training.

### **Confrontation Meetings**

The first component of the health system's conflict initiative was to hold "confrontation meetings" with nearly all departments led by executive level managers, division heads, and director-level managers (representing over one third of the departments in the entire organization). Confrontation meetings are off-site, 3 day meetings held in small groups (Beckhard 1967). In confrontation meetings, participants worked with a trained OD facilitator to identify and bring to the attention of all department members all conflicts between them. After identifying conflicts, meeting participants engaged in a process called "contracting," wherein disputing parties within departments discussed their working relationship, explored how they each may be contributing to problems, and mutually planned how to resolve their differences. The outcome was a written contract which details an action plan for how each party would behave differently in the future (Boss and McConkie 2008). In this manner, off-site confrontation meetings were held with 107 departments in the health system beginning in May of 2001. These departments were chosen because the CEO and top management team wanted managers from the top of the organization to be trained so that they could model appropriate day-to-day conflict management techniques. During the course of these confrontation meetings, participants received extensive training on basic conflict management techniques, and with the help of the consultant, went through a structured process to identify and resolve conflicts, and plan follow-up interviews.

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<sup>1</sup>The organization had a policy in place that included a mechanism for employees to escalate grievances to the Human Resource function of each organization. More information about this policy is found in the methods section.



## Conflict Management Interviews

The second component of the health system's preventative conflict management initiative was focused on long-term follow-up through a practice we call *Conflict Management Interviews*<sup>2</sup> or (CMIs) (Boss 1983; Whetten and Cameron 2011). CMIs are regular, private meetings between two individuals to confront and resolve prior or emerging conflicts (Cummings and Worley 2015), develop and revise action plans for collaboration, and discuss any work or non-work related concerns. The defining objectives of CMIs are to prevent or reduce the escalation of interpersonal problems by a) reducing the likelihood of misunderstanding through increased communication, and b) providing a mechanism for holding both parties accountable to their commitments in the working relationship over a sustained period of time (Cameron 2012). Conflict management interviews contrast sharply with performance appraisals or interviews in at least three ways. First, they are conducted purely for developmental purposes rather than for legal defense or as an administrative basis for making pay raise or promotion decisions. Second, in CMIs, communication and feedback are exchanged in *both* directions (upward and downward) between the supervisor and subordinate as opposed to a top-down only method found in traditional performance appraisal related meetings. Third, mutual problem solving is the underlying philosophy of CMIs, in contrast to a "tell and sell" philosophy where the supervisor unilaterally attempts to persuade the subordinate to conform to his or her own view of the problem and the appropriate solution (Maier 1958).

Beginning in the summer of 2001 the healthcare system launched a large-scale training program for all supervisor-subordinate dyads to begin holding consistent CMIs and provided resources so they could be held during regular business hours. The CEO and top management

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<sup>2</sup>These were also known as Personal Management Interviews or Personal Interviews in this health system.

team championed this training and signaled the expectations that this would become the standard operating procedure by conducting CMIs themselves with their direct reports. These initiatives provided a unique opportunity to test foundational predictions of ICMS theory.

### **Hypothesis Development**

Roche and Teague (2012: 285) observed that “the role of line managers in conflict management and resolution is a central dimension of integrated conflict management systems theory.” Nearly all contributors to the theory of conflict management in one way or another envisage that conflict management systems will become embedded in organizational processes and thereby in the routine practice of managers and employees. Yet in most organizations, this is a significant challenge because it involves change (Lynch 2003). “Change in the status quo generates suspicion, fear and resistance” (Costantino and Merchant 1996: 74), particularly among those managers and employees who will actually use and implement the system. This resistance can be explained by several factors. Employees and managers may feel as though they are being forced or coerced to comply with an initiative that they don’t like, don’t believe in, or in which they had no input (Costantino and Merchant 1996). As Carter writes, “any new organizational dispute system will likely be opposed by those who believe they were winning under the old system or fear that their work will be diminished under the new system” (1999: 63). ICMS may be threatening because managers or employees may fear that bringing conflict into the open may reveal their mistakes or cast their performance in a negative light. They may worry that they will either be punished for results they can’t control, or won’t be rewarded for their time and efforts to address conflict (Gosline et al. 2001; Lipsky et al. 2003). Finally, time pressure can be a significant barrier to the implementation of conflict management initiatives (Boss 1983; Golembiewski 2000; Cameron 2012).

In summary, ICMS theory asserts that the more that line managers and employees are directly involved in day-to-day conflict management, the better the result (Bendersky 2003; Roche and Teague 2012). However, there are multiple reasons why individuals may be resistant to taking on such daily responsibility for conflict management. These literatures suggest that managers vary in their implementation of conflict-related practices in their day-to-day interactions with employees. This variation can occur in many different ways including the frequency and quality of CMIs, a subject we will examine further. Yet in its most basic form, variance will be manifest by some managers performing CMIs and some managers not performing CMIs. Even if top management dictates or mandates that CMIs are conducted, we reason that some managers will not do them, either because of time pressure, resentment, or concern that they will not be worth the investment. Drawing on ICMS theory, we hypothesize that there will be significant differences in the escalation of conflicts to formal grievances, department culture perceptions, and retention between employees who report having CMIs with their supervisor and those who report not having them. Specifically we hypothesize that:

**H1a:** Employees who report that their direct line manager conducts CMIs with them personally will be less likely to have a written grievance documented in the organization's conflict resolution procedure.

**H1b:** Employees who report that their direct line manager conducts CMIs with them personally will have more positive department culture perceptions over time.

**H1c:** Employees who report that their direct line manager conducts CMIs with them personally will be less likely to separate from the organization over time.

ICMS theory has explored numerous contextual factors that contribute to the effectiveness of conflict management feedback systems (Gosline et al. 2001). One such factor

that has been identified in the literature is the consistency with which conflict management activities are implemented over time (Costantino and Merchant 1996). For example, in the institutionalization of conflict management systems, Lipsky et al. (2003) discuss the importance of *ongoing* assessment, education, and reinforcing of communications. Similarly, in the OD literature, frequency of follow-up has been a central theme. Numerous authors have identified that the relative infrequency of communications about performance-related issues has been a longstanding concern. In most organizations, performance appraisals occur only once per year. Murphy and Cleveland noted that “annual performance appraisals have attained near ritual status in American corporations” (1995: 372), yet research suggests that infrequent feedback and performance-related communication can be problematic. More frequent feedback is good because it helps employees with limited resources adapt more effectively to challenges in their work environment by helping them spend their time on the highest priority tasks and correct mistakes (Carver and Scheier 1982). Additionally, researchers have suggested that frequent feedback can help subordinates develop confidence in themselves, which can increase their intrinsic motivation to complete tasks (Chhokar and Wallin 1984). Kacmar, Witt, Zivnuska, and Gully (2003) argue that more frequent communication may reduce the likelihood that misunderstandings will arise in the relationship or that supervisors will overlook the accomplishments, good performance, or positive contributions of the subordinate. Consistent with these findings, Fairhurst (1993) found that communication frequency has a positive relationship with subordinates’ perceived relationship quality with their supervisors. Similarly, Kacmar and colleagues (2003) found a positive relationship between communication frequency and performance ratings. In summary, research suggests that managers vary substantially in the

frequency with which they have candid conversations with their direct reports about conflict outside of formal performance appraisal systems.

These findings are consistent with the predictions of ICMS theory (Costantino and Merchant 1996; Gosline et al. 2001; Lipsky et al. 2003) which advocates for consistent communication and ongoing feedback in relation to conflict. Multiple OD theorists have suggested that CMIs should occur at least monthly to be effective (Boss 1983; Whetten and Cameron 2011; Cameron 2012). We draw on these literatures to derive what we call the *CMI frequency hypothesis*. Specifically, we expect that frequent CMIs will be better than infrequent CMIs on written grievances, department culture perceptions and retention.

We propose that the best way to evaluate the frequency with which line managers conduct CMIs is to consider the aggregate perceptions of their direct reports rather than the perceptions of the individuals themselves. Individual employees may have biased views of their interaction with their supervisor so it is important to look at how a particular supervisor is perceived on average by his or her *group* of direct reports. We predict that employees whose line managers are rated by the group to hold at least monthly CMIs will have better retention and attitudes than employees whose managers are rated by the group as having less-frequent CMIs. Specifically we hypothesize that:

**H2a:** Employees who report that their direct line manager conducts CMIs with them at least once per month will be less likely to have a written grievance documented in the organization's conflict resolution procedure.

**H2b:** Employees who report that their direct line manager conducts CMIs with them at least once per month will have more positive department culture perceptions over time.

**H2c:** Employees who report that their direct line manager conducts CMIs with them at least once per month will be less likely to separate from the organization over time.

In addition to the frequency of CMIs, both OD and ICMS theory suggests that line managers will vary significantly on the quality of their interactions with employees. Ewing (1989) notes several examples of how some managers are inherently more receptive than others at listening to the concerns of their employees, taking their input into account, and working with them to resolve disagreements. Many other experts have recommended training on conflict management to increase the likelihood of quality manager-subordinate interactions across the organization (Costantino and Merchant 1996; Lipsky et al. 2003; Lynch 2003). Similarly there is substantial empirical evidence that quality of supervisor-subordinate interactions varies significantly between managers (Cogliser and Schriesheim 2000; Schriesheim, Castro, Zhou, and Yammarino 2001), and OD theorists have observed that some managers provide high-quality CMIs to their direct reports, while others do not (Boss and McConkie 2008). Extending this logic, we propose what we call *the CMI quality hypothesis*: that interview quality will vary between managers and that this will impact subordinates' attitudes and behavior over time. Specifically we hypothesize that:

**H3a:** Line managers' average CMI helpfulness ratings will be negatively related to the likelihood of the employee having a written grievance documented in the organization's conflict resolution procedure.

**H3b:** Line managers' average CMI helpfulness ratings will be positively related to department culture perceptions over time.

**H3c:** Line managers' average CMI helpfulness ratings will be negatively related to employee separation over time.

Finally, both the OD and ICMS literatures provide cautionary observations about the potentially damaging effects of a poor implementation of conflict management initiatives. For example, OD literature has routinely stressed the risk of building unrealistic expectations and violating trust if supervisors enter into agreements that they do not fulfill or if their words are not backed by their actions (Boss 1983; Boss and McConkie 2008). Conducting low-quality CMIs may send a negative signal that managers really are not committed to implementing action plans and that they have no genuine interest in change. It is possible that over time, poor quality CMIs may have the undesired effect of eroding trust, and perhaps even foster a culture of dysfunctional skepticism toward conflict management systems or other change interventions. As is the case with other management initiatives, employees can easily grow weary of the latest management fad or the next best program (Cummings and Worley 2008). Unless CMIs are taken seriously by managers and seen by employees as a legitimate means to improving working relationships and well-being, they will not bring desired outcomes (Cameron 2012). Irrespective of good intentions, poor implementation of even the best conflict management practices can undermine their effectiveness (Costantino and Merchant 1996).

On the other hand, an employee who not only receives CMIs from his or her manager, but also feels that they are helpful, is likely to have much higher levels of trust with that manager, be more loyal to the organization, and feel like the work climate is more participative. Thus, we propose that doing CMIs is a necessary but not sufficient condition for reducing the likelihood of written grievances, promoting retention, and establishing a functional department culture. Again, we look at how helpful a particular supervisor's CMIs are perceived on average by his or her *group* of direct reports. Integrating ICMS and OD theory we predict an interactive effect of CMI usage and CMI helpfulness on these outcomes. Specifically, we hypothesize that:

**H4a:** Line managers' average CMI helpfulness ratings will interact with CMI usage to impact written complaint filings such that being personally interviewed by one's direct line manager will reduce the odds of written grievances being documented in the organization's conflict resolution procedure when CMI helpfulness is higher.

**H4b:** Line managers' average CMI helpfulness ratings will interact with CMI usage to impact department culture perceptions such that being personally interviewed by one's direct line manager will result in more positive perceptions when CMI helpfulness is higher.

**H4c:** Line managers' average CMI helpfulness ratings will interact with CMI usage to impact separation such that being personally interviewed by one's direct line manager will result in lower separation rates when CMI helpfulness is higher.

## **Methods**

### **Research Setting**

We conducted our study in a non-unionized system of healthcare organizations which includes a set of over 200 small physician clinics, a research institute, three small acute care hospitals (ranging from 48 to 97 beds), a nursing home, a hospice center, and a large 540-bed teaching and research hospital. Overall the system had approximately 5,000 employees in a given year and over 300 departments. It serves citizens in 5 counties across 2 states in the Eastern US. In the mid-1990s, it experienced major losses in revenues, cuts in budgets and hospital services, an authoritarian leadership style that fostered competition and conflict among various hospital units, widespread discontent and high turnover among the medical staff, and serious deterioration in the quality of health care, all of which culminated in the forced resignation of the previous CEO in 2000.



In addition to the confrontation meetings, training, and CMI initiatives launched in 2001, the host health system had a long-standing procedure for addressing employee conflict. Under this policy, employees were encouraged to go to their direct supervisor (or any other manager) if they had a dispute with a coworker, manager, or the organization. If disputes could not be resolved by informal discussions, employees or supervisors were invited to contact the HR department for investigation. The HR department would document the grievance in written form and review the matter with the relevant parties to determine what course of action would be needed, if any. The HR department provided informal consultation to resolve conflicts between the grieving employee and the supervisor (or coworker). In rare cases, the investigation would lead to corrective action for employees or supervisors. In extremely rare cases, employees would seek to resolve the dispute through legal channels outside the organization. Thus, in this health system, written employee grievances represented an escalation of disputes to a more formalized process.

### **Measures**

The data for this study were drawn from a combination of survey and administrative archival data provided by the organization.

#### *Independent Variables*

Engagement surveys administered at six-month intervals asked a set of questions about CMI usage which comprised our hypothesized independent variables. First, we asked employees a binary question of whether or not they had participated in a CMI with their line manager at least once (1=yes, 0=no). Second, based on previous research suggesting that a monthly interval is an appropriate minimum frequency benchmark for CMIs (Boss 1983), we asked employees how often they had CMIs with their line manager (1=at least monthly, 0=less frequently than

monthly). Third, we asked employees to rate the quality of their CMIs, on a scale of 1 to 10 (1=not at all helpful to 10=completely helpful). A potential concern is that effective, easy-to-manage employees may be more likely to be invited to participate in CMIs with their immediate supervisor. Similarly, good-natured employees may give higher evaluation scores when asked about the helpfulness of CMIs while also being less likely to separate from the company. Thus, to test Hypothesis 3, we took the department mean of each managers' subordinate ratings of their CMI helpfulness.

In terms of non-hypothesized variables and controls, we measured employees' personal participation in confrontation meetings from personnel files such that 1=having participated in confrontation training meetings and 0=not having participated. We also measured whether a given employee's first-line manager had participated in confrontation meetings with his or her own peer group of managers (Manager Confrontation=1) or not (Manager Confrontation=0). We gathered compensation data, tenure, and other control variables from the personnel files.

### *Dependent Variables*

*Written Grievances.* We obtained an archival record of written grievances documented by the HR department concerning employees for the years 2005 and 2006 under the health system's dispute policy<sup>3</sup>. As noted above, beyond talking informally with their managers, employees could contact HR to formalize complaints against the organization as a whole, their supervisors, or their coworkers for any reason. We eliminated written grievances against organizational policies, against the employer as a whole or any grievances which could not be tied to interpersonal conflicts within work departments. Thus written grievances provided a measure of the extent to which interpersonal disputes were "escalated" from unwritten to

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<sup>3</sup>Unfortunately we did not obtain access to written grievances data before or after this time period.

written form and codified for administrative reference. Following previous literature on employee grievance filings (Bemmels and Foley 1996), we took a dichotomous approach to measuring written grievances (Allen and Keavney 1985). Specifically a 1 indicated the existence of a written complaint associated with an employee from a coworker or supervisor relating to an interpersonal dispute and 0 indicated they did not.

*Department Culture.* As part of the ongoing evaluation of the conflict management initiative, the organization administered employee engagement surveys to employees approximately every six months following the initiation of the confrontation training and the CMI initiative. Response rates for these surveys was excellent, averaging around 70% completion.

We measured department culture using the 18-item Likert Profile of Organizations (Likert 1967), with items adapted such that departments were the referent rather than the organization as a whole. The Likert Profile has 6 different dimensions of effectiveness including motivation, leadership, communication, decision making, goal setting, and empowerment. Three sample items include: “How much cooperative teamwork exists?” (response scale from 1 to 20 ranging from Very little to Relatively little to Moderate amount to Great deal). “Which best describes management's approach to motivation?” (response scale from 1 to 20 ranging from Fear, threats, punishment and rewards occasionally to Rewards and some punishment to Rewards, some punishment and involvement to Involvement and rewards, based on the group). “How much confidence and trust is shown in employees by management?” (response scale from 1 to 20 ranging from Virtually none to Some to Substantial Amount to A great deal). Following previous research indicating that the profile represents a unidimensional scale measuring the overall culture of a unit (Butterfield and Faris

1974), we took the mean of all 18 items as a measure of department culture.

*Turnover.* We obtained employee turnover records from system personnel files for the duration of the study period. We measured employee separation as a binary variable coded as 1 if the employee left the organization in a given year and 0 if the employee stayed in a given year.

## **Data**

As reported in Table 1, our sample consists of administrative records for 6,878 unique level-1 employees who report directly to a department manager and who responded to at least one survey from 2003 until 2010. Over this period, 7.5 percent of level-1 employees separated from the company each year. High turnover and non-response to the employee surveys explain why we observe each unique employee on average in only 2.95 years in our eight-year study period.

### **[Table 1 near here]**

Table 1 indicates that the fraction of level-1 employees who participate in a CMI is quite high, at nearly 88 percent. However, only 34 percent have a CMI each month. Table 1 also indicates that on a scale of 1 to 10, the employees rate the helpfulness of the CMI interviews at a 7.049, on average. Note however, that we only have a self-reported helpfulness measure for those employees who had a CMI during the given year.

## **Estimation**

In order to estimate the effect of CMIs on our outcomes of written grievances, department culture, and employee separation, we estimate four different specifications. The first two specifications apply to the written grievance outcome where we have only one observation (averaged over 2005 and 2006 surveys if observed in both years) for each employee:

$$Written_i = \beta_0 + \beta_1 CMI_i + \beta_2 monthly_i + \beta_3 helpful_i + \delta X_i + u_i \quad (1)$$

$$Written_{id} = \beta_0 + \beta_1 CMI_{id} + \beta_2 \overline{helpful}_d + \beta_3 \overline{CMI}_d + \beta_4 CMI_{id} \times \overline{helpful}_d + \delta X_{id} + u_{id}. \quad (2)$$

The variable  $CMI_i$  indicates that the employee participated in at least one CMI with his or her manager,  $monthly_i$  indicates the employee had CMIs with the manager every month, and  $helpful_i$  is employee  $i$ 's assessment of the helpfulness or effectiveness of CMIs with the manager of employee  $i$ 's department on a scale of 1 (not helpful) to 10 (completely helpful). The model also includes a vector of controls,  $X_i$ , including gender, ethnicity, position indicators, annual total compensation, tenure, campus location, an indicator for employee  $i$ 's participation in confrontation training, and another for employee  $i$ 's manager's participation.

In specification (2), we include the department average of  $CMI$  and  $helpful$ , where the department is indicated by the subscript  $d$ . The department average for  $CMI$  is the fraction of employees in department  $d$  that participated in a CMI with the manager. The department average for  $helpful$  is the average reported helpfulness or effectiveness of CMIs given by the manager of department  $d$ . Endogeneity concerns with using the employee's own evaluation of the helpfulness of CMIs are diminished by using the department average of  $helpful$ . Most importantly, we include an interaction between  $CMI_{id}$  and  $\overline{helpful}_d$ . The coefficient on this interaction term allows the effect of  $CMI_{id}$  on the outcome to depend on the CMI helpfulness of the manager. Note that we subtract 7 from the department average of  $helpful$  so that one can interpret  $\beta_1$  as the effect of  $CMI_{id}$  on the outcome for an employee who's manager has a department average  $helpful$  score of 7 (approximately the mean in the sample). Each one point change in  $helpful$  would change the effect of  $CMI_{id}$  on the outcome by  $\beta_4$ . For example, with  $\overline{helpful}_d$  score of 8.25 (approximately the 90<sup>th</sup> percentile), the effect of holding a CMI on the outcome would be  $\beta_1 + 1.25 \beta_4$ .

The following two specifications apply to our outcome variables measuring department culture and employee separation:

$$Y_{it} = \beta_0 + \beta_1 CMI_{it} + \beta_2 monthly_{it} + \beta_3 helpful_{it} + \delta X_{it} + \lambda_t + \theta_i + u_{it} \quad (3)$$

$$Y_{idt} = \beta_0 + \beta_1 CMI_{idt} + \beta_2 \overline{helpful}_{dt} + \beta_3 \overline{CMI}_{dt} + \beta_4 CMI_{it} \times \overline{helpful}_{dt} + \delta X_{idt} + \lambda_t + \theta_i + u_{idt} \quad (4)$$

where  $Y_{it}$  indicates the outcome for employee  $i$  in year  $t$ . The panel nature of the outcome data allows the inclusion of time and individual fixed effects. The model also includes a vector of controls,  $X_{it}$ , including position indicators, annual total compensation, tenure, campus location, an indicator for employee  $i$ 's current or prior participation in confrontation training, and another for employee  $i$ 's manager's current or prior participation. We do not include indicators for gender or ethnicity in  $X_{it}$  as they do not vary over time and are already captured in the individual fixed effect.

In specification (4), we again include the department average of the *CMI* and *helpful* variables and we again subtract 7 from the *helpful* department average so that one can interpret  $\beta_1$  as the effect of a CMI for an employee whose manager's CMIs are rated to be of average helpfulness by the department. The distribution of  $\overline{helpful}_{dt}$  is reported in Figure 1 and indicates that there is large amount of variation across managers and time.

**[Figure 1 near here]**

There is a natural increase in the percentage of level-1 employees who have a CMI with the line manager over time. There is also natural variation in the separation rate over time, in particular a decline in separations during the recession in 2008, and an upward trend in the average value of the Likert scale measure of the department culture. To alleviate concerns of spurious correlation, we include year dummies,  $\lambda_t$ , in specifications (3) and (4).

Correlation between the dependent and explanatory variables may simply be due to unobserved individual characteristics. Therefore, individual fixed effects,  $\theta_i$ , are also included in specifications (3) and (4) to control for all unobserved, time-invariant, individual characteristics. This means that we identify the effect of CMIs in specifications (3) and (4) from changes over time in the CMIs, including changes in the average helpfulness. By contrast, specifications (1) and (2) only identify the effect of CMIs from cross-sectional differences. Given the short time period in which we observe written grievances, the superior individual fixed effects approach is not possible. In all four specifications, we use heteroscedasticity-robust standard errors, clustered by department (about 300 in total).

## Results

We begin by examining the effect of CMIs on written grievances. Table 2 reports estimates from specification (1) where we have one observation per employee. Column (1) of Table 2 suggests that CMIs reduce the likelihood of written grievances, though the estimate is not statistically significant. However, columns (2) and (3) present statistically significant evidence that employees who report higher evaluations of the helpfulness of CMIs are less likely to have a written grievance. A 2-point increase in the helpfulness of the CMIs is estimated to reduce the likelihood of a written grievance by nearly 1 percentage point. This is a relatively large reduction as only 2.3 percent of employees have a written grievance. We view this as strong evidence supporting hypothesis 3a. Note that the sample size is smaller for columns (2) and (3) because only employees who reported having at least one CMI with their supervisor also report a helpfulness rating. There is no evidence in Table 2 that the frequency of CMIs reduces written grievances, in fact, the point estimates are positive. Thus, we find no support for hypothesis 2a. Increases in compensation do not associate with the likelihood of having a written

grievance. Participation in a confrontation meeting is positively associated with having a written grievance which suggests that this training was directed at level-1 employees at greater risk for (or perhaps with a history of) confrontation.<sup>4</sup> Manager participation in a confrontation meeting is negatively associated with the employee having a written grievance.

**[Tables 2 & 3 near here]**

Table 3 reports estimates from specification (2) where department averages for the helpfulness of the manager's CMIs are used rather than the employee's own evaluation of helpfulness. Column (1) suggests that CMIs reduce written grievances, though again, the evidence is not statistically significant. There is a statistically significant reduction in written grievances in departments where the manager's CMIs are rated as more helpful as indicated in both columns (1) and (2). Note that controlling for the fraction of employees participating in a CMI does not have an important impact on the estimates. Column (3) presents strong evidence that CMIs are more effective at reducing written grievances if the manager's CMIs are more helpful than average.

To illustrate this, Figure 2 presents the predicted probability of a written grievance using the estimates presented in column (3). Figure 2 shows that while there is no difference in the estimated probability of a written grievance for low levels of helpfulness, at high levels of helpfulness, employees who participated in a CMI are significantly less likely to have a written grievance. Thus, we find support for hypothesis 1a and strong support for hypothesis 4a. Adding a measure of frequency of CMIs (*monthly*) to specification (2) has little impact on the estimated

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<sup>4</sup>Participation in a confrontation meeting is relatively rare for level-1 employees. By the end of our study period, only 5.2 percent of level-1 employees had participated in this training. In contrast, 53.1 percent of managers had participated in a confrontation meeting by the end of our study period.



effect of CMIs, nor is it statistically significant when considered jointly with CMI helpfulness, again providing no evidence to support hypothesis 2a.

**[Figure 2 near here]**

Turning now to an evaluation of the effect of CMIs on department culture, Table 4 presents estimates of specification (3) where the outcome variable is the self-reported Likert scale measuring the culture of the department. For comparison, estimates from an OLS regression without individual fixed effects are reported in column (1). Estimates with individual fixed effects included are presented in columns (2) through (5). The results suggest that having a CMI, having CMIs frequently, and having more helpful CMIs increases the employee's perception of the work environment as having a functional department culture. Thus, hypotheses 1b, 2b, and 3b are supported. However, note that the coefficient estimate on *monthly* is much smaller and not statistically significant once *helpful* is included. This suggests that the evidence supporting hypothesis 2b is weaker than that supporting hypotheses 1b and 3b. Increases in compensation do not associate with the employee's perception of a functional department culture while confrontation training does.

**[Tables 4 & 5 near here]**

Table 5 reports our estimates of specification (4) with department-level variables included. With respect to the Likert scale of a functional department climate, CMIs not only have a strong positive effect at the mean value of manager CMI helpfulness, but CMIs even have a strong positive effect at relatively low values of manager CMI helpfulness. The interaction term is positive, but not statistically significant suggesting only weak support for hypothesis 4b.

Figure 3 graphs the predicted Likert score for level-1 employees by CMI and manger CMI helpfulness. The gap in perception of a functional department culture between those

participating in CMIs and those not, grows only slowly as we increase manager CMI helpfulness. Though not reported, we observed very similar findings when using perceived teamwork, pay satisfaction, and trust as dependent variables in these analyses.

**[Figure 3 near here]**

We examine the effect of CMIs on employee separation in our final set of results. Table 6 presents estimates of specification (3) where the outcome variable is the observed separation of the level-1 employees. For comparison, estimates from an OLS regression without individual fixed effects are reported in column (1). Estimates with individual fixed effects included are presented in columns (2) through (5). The OLS results in column (1) suggest that having a CMI with the department manager reduces the probability of employee separation by 2.3 percentage points, though this result is not robust to including individual fixed effects as in columns (2) and (3). The fixed effects results indicate that failing to hold a CMI with an employee in a given year does not increase the probability of separation in that year, thus hypothesis 1c is not supported.

Having CMIs frequently is estimated to reduce employee separation, though this result is not robust to including a measure of CMI helpfulness. The negative parameter estimate in column (4) provides at best weak evidence for hypothesis 2c. The self-reported helpfulness of the CMI has a statistically significant effect on separation, as reported in columns (4) and (5), providing strong support for hypothesis 3c. The columns suggest that a one-point increase in the employee's evaluations of CMI helpfulness causes a 0.48 percentage point reduction in the probability of separation.<sup>5</sup> This estimated effect is statistically significant at the one-percent level and is quite large when compared to the baseline 7.5 percentage point probability of separation.

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<sup>5</sup>Note that the sample size is smaller in columns (4) and (5) because we only observe the helpfulness score if the employee reports having a CMI in the given year.

In terms of control variables, we estimate that an additional \$1,000 of total compensation causes a 0.4 percentage point reduction in the probability of separation, even when conditioning on the employee's position and tenure. Confrontation training seems to have a large, but not statistically significant effect on separation, reducing the probability of separation by 1.8 percentage points. However, there is no estimated effect from having the employee's manager receive the same training.

**[Tables 6 & 7 near here]**

Table 7 reports our estimates of specification (4) for employee separation with department-level variables included. CMIs are estimated to have a small positive effect on employee separation at the mean value of manager CMI helpfulness, though this is not statistically significant.<sup>6</sup> Column (3) shows a statistically significant interaction term, which implies that CMIs decrease employee separation at high levels of manager CMI helpfulness. Symmetrically, this implies that CMIs increase employee separation at low levels of manager CMI helpfulness. Thus hypothesis 4c is not supported. The other results from Table 6—indicating that an increase in compensation and receiving confrontation training reduces the probability of separation—are again suggested by the results reported in Table 7.

Figure 4 graphically represents the findings reported in Table 7. It is striking that the predicted probability of separation is higher at low levels of manager CMI helpfulness for those employees who had a CMI as compared to those who did not. At about the mean level of CMI helpfulness, the predicted probabilities of separation cross and we find that those who have a CMI with a manager with above-average CMI helpfulness have a reduced probability of separation.

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<sup>6</sup>Note that the department average CMI helpfulness variable is centered at 7 so that the reported effect of CMI on separation in the first row is valid at the mean of the manager CMI helpfulness.

[Figure 4 near here]

### Discussion

Collectively, these results suggest that confrontation meetings and CMIs appear to be useful practices, but that CMIs may be especially important. Our data also tell a nuanced story about CMIs: that simply holding a CMI is effective at improving an employee's perception of the department's culture. However, poorly-conducted CMIs have the unfortunate effects of increasing written grievances and increasing employee turnover, while above-average CMIs reduce written grievances and turnover. Thus, our data show clear evidence that it's not if, nor necessarily how often, but *how well* line managers conduct CMIs that matters in terms of reducing conflict escalation, improving department culture, and in reducing turnover. In fact, our data show that conducting CMIs poorly can actually backfire by increasing the need for formal employee discipline and the odds of separation from the organization. Our results give rise to a number of important theoretical and practical implications.

### Theoretical Implications

First, in terms of contributions to the scholarly literature, the set of conflict management interventions implemented at the health system that hosted our study provides us with a rare opportunity to conduct an empirical test of two important predictions of ICMS theory: a) line managers and employees play a key role in the implementation of conflict management systems and b) consistent follow-up and communication between managers and employees on a wide range of concerns will improve numerous effectiveness outcomes (Costantino and Merchant 1996; Gosline et al. 2001; Lipsky et al. 2003). ICMS theorists have long noted the challenges of finding outcome data to conduct evaluation studies (Lipsky et al. 2003; Bingham 2004; Roche and Teague 2012; Lipsky 2015). Fortunately, this health system provided us the opportunity to

examine the extent to which line managers' conflict management actions were related to three outcomes that ICMS theory identifies as important: written grievance filings, department culture perceptions, and actual employee turnover. This study provides evidence in support of ICMS that line manager behavior does appear to be linked to culture and turnover outcomes over time.

Second, our study builds on previous ties in the literature by integrating ICMS theory from industrial relations with OD tools from organizational behavior to provide further insight into how to effectively implement a conflict management system. As noted in this paper, organization change is a fundamental objective shared by both disciplines (Conbere 2001; Lipsky et al. 2003). Indeed, ICMS theory has drawn heavily from classical OD theory including Lewin's field theory, force-field analysis (Lewin 1951), and associated techniques to identify forces of and barriers to change and how to overcome them (Costantino and Merchant 1996; Rowe 1997; Lipsky et al. 2003). As Costantino and Merchant note: "The OD profession encourages a values driven and patterned approach to change, an approach that applies to change in conflict management systems as well" (1996: 27). In keeping with predictions from both disciplines about value-driven approaches to change, we find that the quality of line managers' follow-up interviews is the most important conflict management related factor in promoting functional department culture and retention over time.

Finally, our study advances previous research which has extended calls to explore the mechanisms through which conflict resolution can be sustained over time (Behfar, Peterson, Mannix, and Trochim 2008). ICMS by definition are living systems that evolve in an iterative process based on action, evaluation, and feedback (Gosline et al. 2001; Lipsky et al. 2003; Lynch 2003). Our study extends the literature not only by employing a longitudinal design but by identifying key mechanisms that drive outcomes. We empirically show that retention is not a

matter of if CMIs are employed, or how often, but rather *how well* they are conducted that is important. To our knowledge this is the first study of its kind to test the efficacy of supervisory conflict management behavior over an eight-year period using a combination of survey and archival data.

### **Practical Implications**

In terms of practical implications we suggest that when managers and employees are introduced to CMIs, they are not only trained on how to properly conduct them (Boss 1983; Cameron 2012), but also alerted to the potential consequences associated with poor-quality follow through. Our data show some evidence that doing CMIs poorly is worse than doing none at all. This may be for a variety of reasons: For one, poor-quality CMIs may send a message to employees that managers can't be trusted because they set high expectations that are not fulfilled. Poor-quality CMIs may also send a signal to employees that conflict management initiatives are just a fad that will not result in any true change. All individuals who participate in CMIs should be aware of the importance of making a complete investment in CMIs and should recognize that a casual or halfhearted implementation of an intervention has the potential to do more harm than good by reducing trust, building up skepticism of interventions, and fostering resistance to change.

To facilitate consistent CMIs, organizations should invest sufficient resources so that managers and employees have the time to make them high-quality interactions. Organizations may unknowingly undermine the successful implementation of a CMI program by failing to provide the support for people to do them well. CMIs need to lead to meaningful behavior change that is visible to employees which in turn will bring legitimacy to the process and foster buy-in that can spread throughout the organization. Attitudes toward management initiatives are

contagious, and if a core group of employees sees the CMI as being a viable path to a better work life, this view is likely to be shared within teams and business units. As one employee in a previous study noted:

### **Limitations and Future Research**

We acknowledge that our study has certain limitations that should be noted because they provide directions for future research contributions to the field. First, despite the fact that we tested our hypotheses in a US health system comprised of multiple hospitals and clinics, we recognize that these results may not generalize to all hospitals, or healthcare organizations, or other industries and countries. Thus, future research should examine the importance of CMI consistency in other field settings in a variety of industries and cultures.

Second, we were fortunate to have access to a multi-source data set that allowed us to examine both attitudes and behavior as an outcome of conflict management implementation. In non-hypothesized analyses, we found similar results with additional employee perceptions including pay satisfaction, teamwork, and perceived resources. Yet a notable limitation of this research is that we only examined written grievances, department culture perceptions, and retention. ICMS theory identifies multiple outcomes of conflict management systems, thus future research should seek to explore an array of attitudinal, behavioral, and financial outcomes at multiple levels of analysis. Actual employee performance, litigation costs, and clinical outcomes (in the healthcare industry) would make ideal dependent variables in follow-up research.

Third, this study tested only a portion of the predictions of ICMS theory and does not constitute a complete analysis. ICMS theory offers a variety of additional predictions about the proper design and implementation of conflict management systems that warrant additional study. For example, it would be interesting to pursue evaluation research of conflict management

systems from a cross-level perspective, looking at how practices and perceptions become shared at various organizational units. We reason that the adoption of conflict management practices varies across departments, divisions, and organizations such that each develop their own traditions, culture, and expectations. It would be interesting for future research to address how one's membership in a certain type of culture could influence outcomes. However, it is quite possible that other contextual factors relating to the implementation of CMIs play a significant role in their success over time. For example, future research should examine the quality of the CMI process in addition to the frequency of the CMI to uncover nuances that would help managers implement them more effectively. Future research should also examine more outcomes beyond the attitudes and behaviors studied here.

Finally, a significant strength of this study is that we were able to use panel regression models to test our hypotheses with a temporal lens. However, many questions remain unexplored, particularly relating to patterns of intra-individual change at multiple levels of analysis. For example, considering line managers, it would be interesting to conduct trajectory analyses to evaluate how they pattern their CMI behavior changes over time in both frequency and quality. How would employee attitudes and retention change in response to a line manager who consistently performs CMIs for five years and then stops in year six? How would employee attitudes change in response to a line manager gradually improving the quality of CMIs? How would they change in response to a sharp increase in the quality of CMIs? To address these questions, future research could further push the frontier of ICMS theory and test them using longitudinal designs.

### **Conclusion**

We examined survey and archival data from a health system in the Eastern US as it



implemented a preventative conflict management system over an eight-year period, providing a unique opportunity to test key predictions of Integrated Conflict Management System (ICMS) theory with a longitudinal design. Managers and employees were trained to conduct Conflict Management Interviews (CMIs) to prevent and/or resolve interpersonal disputes at the lowest possible level. We observed variation in line managers' implementation of this CMI initiative over time and evaluated how differences in the use of CMIs, the frequency of CMIs, and the quality of CMIs affected written grievances over a 2-year period, and department culture and retention over an 8-year period. We found evidence that employees whose managers provide high-quality conflict management interviews are less likely to formalize written grievances, perceived significantly more functional department culture, and experienced lower turnover rates respectively. We also found some evidence that employee outcomes were worse when line managers provided poor-quality interviews than when they performed no interviews at all.

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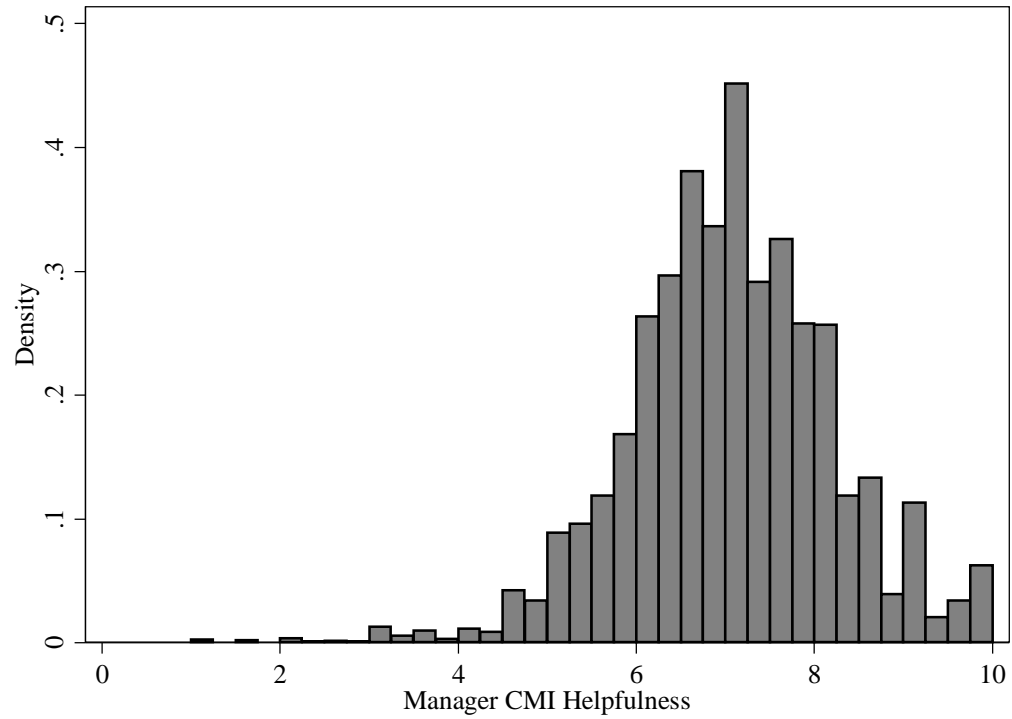
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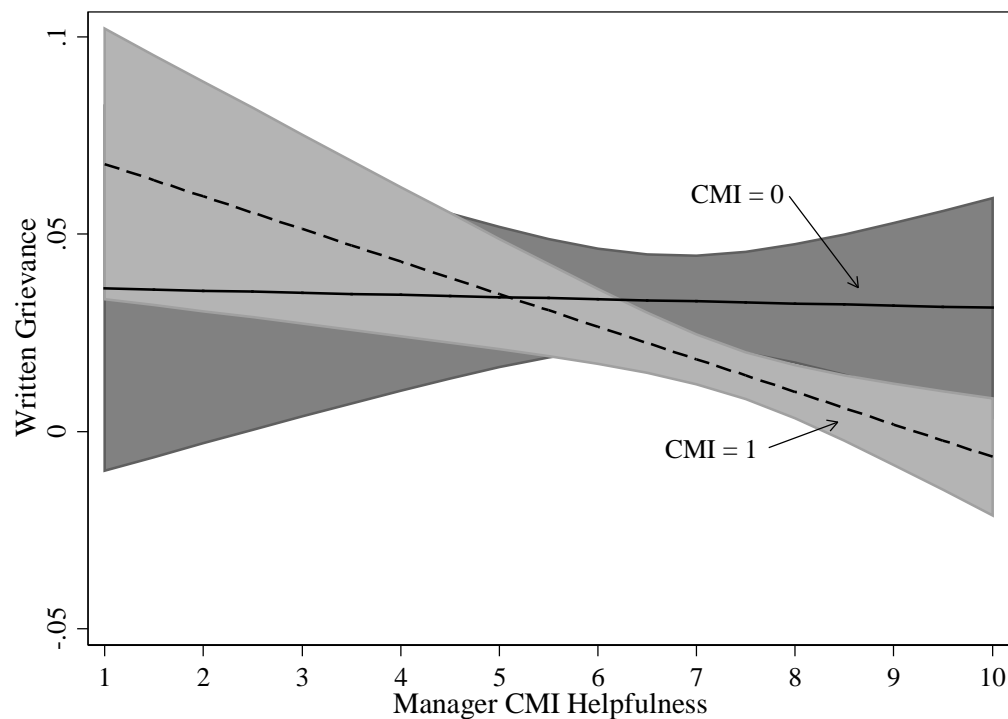
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Figure 1. Reported Helpfulness of Conflict Management Interviews with Line Manager by Department and Year



*Note:* We construct the variable by averaging the CMI helpfulness evaluation offered by all the employee respondents in the manager's department in each year.

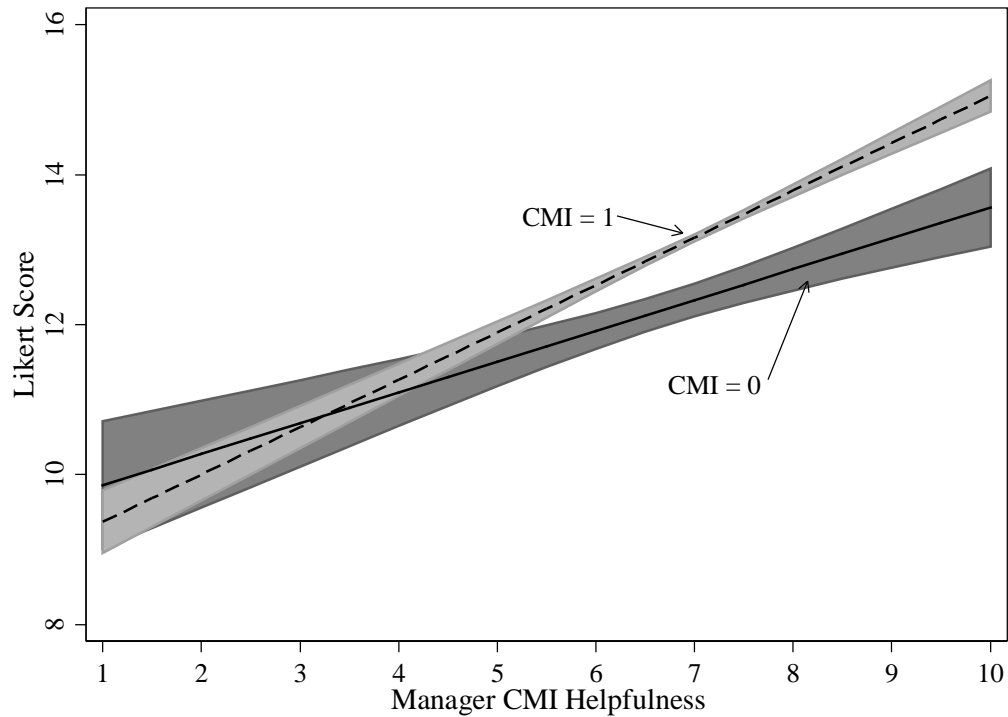
Figure 2. Predicted Written Grievance Probability by CMI and Manager CMI Helpfulness



*Notes:* The estimated probability of a written grievance from specification (2) for level-1 employees who did not participate in a CMI with their manager is represented by the solid line and for those who did by the dashed line. The 95 percent confidence region is represented by the shading. The interaction term in specification (2) makes the probability of a written grievance depend on the department average of the manager's CMI's helpfulness. Estimates for low levels of helpfulness are out of sample predictions as less than one percent of departments have a helpfulness rating of 4 or less.

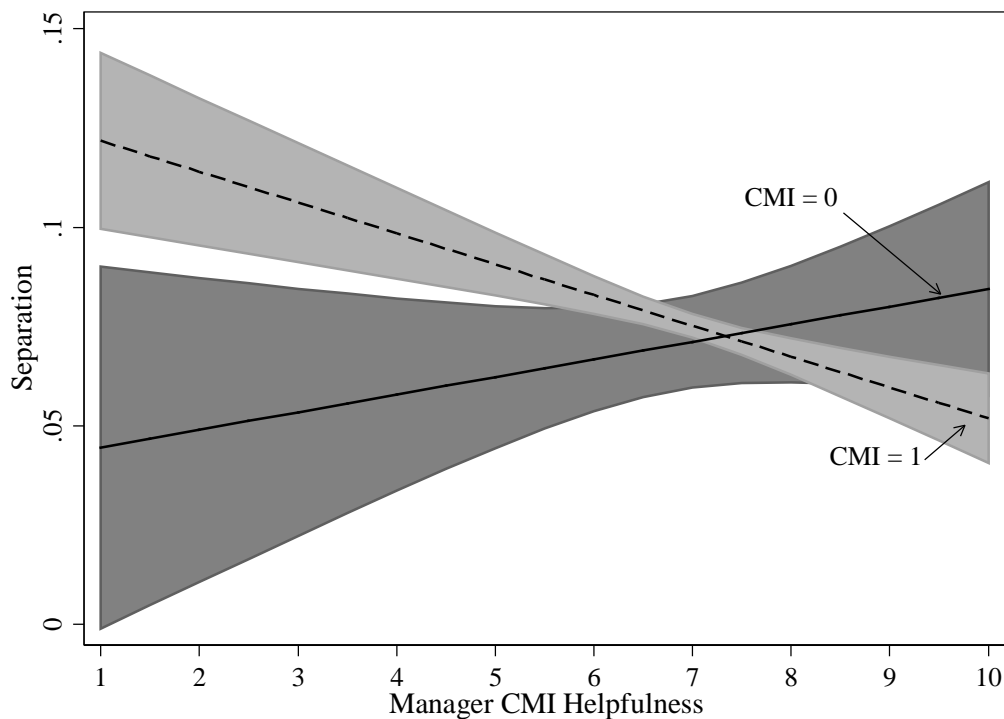


Figure 3. Predicted Department Culture Likert Score by CMI and Manager CMI Helpfulness



*Notes:* The estimated department culture Likert score from specification (4) for level-1 employees who did not participate in a CMI with their manager is represented by the solid line and for those who did by the dashed line. The 95 percent confidence region is represented by the shading. Estimates for low levels of helpfulness are out of sample predictions as less than one percent of departments have a helpfulness rating of 4 or less.

Figure 4. Predicted Separation Probability by CMI and Manager CMI Helpfulness



*Notes:* The estimated probability of separation from specification (4) for level-1 employees who did not participate in a CMI with their manager is represented by the solid line and for those who did by the dashed line. The 95 percent confidence region is represented by the shading. Estimates for low levels of helpfulness are out of sample predictions as less than one percent of departments have a helpfulness rating of 4 or less.

Table 1. Summary Statistics

Variable	N	Mean	SD	Min	Max
CMI	20,279	0.878	0.327	0	1
Monthly	20,279	0.338	0.473	0	1
Helpful	17,771	7.049	2.620	1	10
Compensation (\$1,000s)	20,279	40.13	36.91	0.140	1,072
Confrontation Meeting	20,279	0.045	0.208	0	1
Manager Confrontation Meeting	20,279	0.334	0.472	0	1
Tenure	20,279	7.433	7.759	0	51
Female	19,227	0.838	0.368	0	1
Black	20,277	0.192	0.394	0	1
Asian	20,277	0.013	0.111	0	1
Hispanic	20,277	0.009	0.096	0	1
Other Race/Ethnicity	20,277	0.019	0.137	0	1
Separation	20,279	0.075	0.263	0	1
Department culture	12,522	13.11	3.595	1	20
Written Grievances	2,959	0.023	0.150	0	1
Number of unique employees	6,878				

*Notes:* Only level-1 employees who report directly to the department manager and respond to at least one survey are included in the sample. The sample includes 6,878 unique employees observed an average of 2.95 times in annual surveys over the years 2003 to 2010. Written conflict reports are only observed in the 2005–2006 time period.

Table 2. Effect of Own CMI Evaluation on Written Grievances

Variable	(1) OLS	(2) OLS	(3) OLS
CMI	-0.0089 (0.0076)		
Monthly	0.0023 (0.0066)	0.0032 (0.0068)	
Helpful		-0.0047*** (0.0014)	-0.0046*** (0.0014)
Compensation (\$1,000s)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)
Confrontation Meeting	0.0322* (0.0190)	0.0380* (0.0216)	0.0384* (0.0216)
Manager Confrontation Meeting	-0.0086* (0.0047)	-0.0132** (0.0054)	-0.0133** (0.0054)
Tenure	-0.0043*** (0.0011)	-0.0055*** (0.0014)	-0.0054*** (0.0014)
Tenure <sup>2</sup>	0.0001*** (0.0000)	0.0002*** (0.0001)	0.0002*** (0.0001)
Constant	0.0213* (0.0116)	0.0578*** (0.0160)	0.0583*** (0.0159)
Observations	2,959	2,389	2,389
R-squared	0.0248	0.0321	0.0320

*Notes:* These regressions include one observation for each level-1 employee observed in the 2005–2006 period. All columns include gender, race/ethnicity, campus, and position indicators. Robust standard errors are clustered by department: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1.

Table 3. Effect of Department CMI Evaluation on Written Grievances

Variable	(1) OLS	(2) OLS	(3) OLS
CMI	-0.0073 (0.0070)	-0.0111 (0.0085)	-0.0126 (0.0085)
Helpful Dept. Avg.	-0.0054** (0.0022)	-0.0056** (0.0023)	0.0053 (0.0047)
CMI Dept. Avg.		0.0160 (0.0138)	0.0180 (0.0136)
CMI x Helpful Dept. Avg.			-0.0146*** (0.0053)
Compensation (\$1,000s)	-0.0000 (0.0001)	-0.0000 (0.0001)	-0.0000 (0.0001)
Confrontation Meeting	0.0338* (0.0193)	0.0337* (0.0192)	0.0340* (0.0192)
Manager Confrontation Meeting	-0.0092* (0.0048)	-0.0093* (0.0048)	-0.0097** (0.0048)
Tenure	-0.0045*** (0.0012)	-0.0046*** (0.0012)	-0.0046*** (0.0012)
Tenure <sup>2</sup>	0.0001*** (0.0000)	0.0001*** (0.0000)	0.0001*** (0.0000)
Constant	0.0218* (0.0113)	0.0147 (0.0130)	0.0140 (0.0132)
Observations	2,906	2,906	2,906
R-squared	0.0254	0.0257	0.0276

*Notes:* These regressions include one observation for each level-1 employee observed in the 2005–2006 period. All columns include gender, race/ethnicity, campus, and position indicators. The *Helpful Dept. Avg.* variable is centered at the sample mean level of 7. Robust standard errors are clustered by department:

\*\*\*p<0.01, \*\*p<0.05, \*p<0.1.

Table 4. Effect of Own CMI Evaluation on Department Culture

Variable	(1) OLS	(2) FE	(3) FE	(4) FE	(5) FE
CMI	1.7586*** (0.1583)	0.8950*** (0.2041)	0.6769*** (0.2036)		
Monthly			0.6321*** (0.1371)	0.1830 (0.1282)	
Helpful				0.5283*** (0.0283)	0.5341*** (0.0284)
Compensation (\$1,000s)	0.0005 (0.0026)	0.0010 (0.0028)	0.0009 (0.0029)	0.0009 (0.0027)	0.0008 (0.0027)
Confrontation Meeting	0.1429 (0.2360)	1.2702** (0.5371)	1.2771** (0.5359)	0.9830** (0.4917)	0.9775** (0.4898)
Manager Confrontation Meeting	0.1386 (0.2246)	-0.1651 (0.3936)	-0.1210 (0.3865)	-0.2401 (0.3091)	-0.2551 (0.3086)
Tenure	-0.0121 (0.0200)	-0.0271 (0.0382)	-0.0259 (0.0380)	-0.0312 (0.0326)	-0.0314 (0.0326)
Tenure <sup>2</sup>	0.0010 (0.0006)	0.0016 (0.0015)	0.0015 (0.0015)	0.0013 (0.0013)	0.0013 (0.0013)
Constant	12.3647*** (0.9510)	12.7317*** (1.0752)	12.5427*** (1.0638)	10.3665*** (0.6854)	10.4480*** (0.6867)
Observations	11,489	12,522	12,522	11,266	11,266
R-squared	0.0884	0.7745	0.7767	0.8360	0.8358

*Notes:* All columns include year, campus, and position indicators. Column (1) includes gender and race/ethnicity indicators. Columns (2) through (5) include individual fixed effects, which absorb gender and race/ethnicity. Robust standard errors are clustered by department: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1.

Table 5. Effect of Department CMI Evaluation on Department Culture

Variable	(1) FE	(2) FE	(3) FE
CMI	0.8640*** (0.2026)	0.7609*** (0.1956)	0.8297*** (0.1931)
CMI Helpful Dept. Avg.	0.6003*** (0.0602)	0.5978*** (0.0591)	0.4112*** (0.1364)
CMI Dept. Avg.		0.7347 (0.4886)	0.7277 (0.4816)
CMI x Helpful Dept. Avg.			0.2202 (0.1382)
Compensation (1000's)	0.0013 (0.0028)	0.0011 (0.0028)	0.0013 (0.0028)
Confrontation Meeting	1.1314** (0.4908)	1.1500** (0.4925)	1.1455** (0.4926)
Manager Confrontation Meeting	-0.1299 (0.3132)	-0.1347 (0.3128)	-0.1326 (0.3103)
Tenure	-0.0240 (0.0363)	-0.0237 (0.0362)	-0.0241 (0.0360)
Tenure <sup>2</sup>	0.0016 (0.0015)	0.0015 (0.0015)	0.0016 (0.0015)
Constant	12.7497*** (0.9030)	12.1815*** (1.0107)	12.1078*** (0.9961)
Observations	12,467	12,467	12,467
R-squared	0.7854	0.7856	0.7858

*Notes:* All columns include year, campus, and position indicators. The *Helpful Dept. Avg.* variable is centered at the sample mean level of 7. Robust standard errors are clustered by department: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1.

Table 6. Effect of Own CMI Evaluation on Individual Separation

Variable	(1) OLS	(2) FE	(3) FE	(4) FE	(5) FE
CMI	-0.0232*** (0.0078)	0.0014 (0.0085)	0.0055 (0.0086)		
Monthly			-0.0105* (0.0056)	-0.0040 (0.0055)	
Helpful				-0.0047*** (0.0011)	-0.0048*** (0.0011)
Compensation (\$1,000s)	-0.0013*** (0.0002)	-0.0039*** (0.0009)	-0.0039*** (0.0009)	-0.0041*** (0.0011)	-0.0041*** (0.0011)
Confrontation Meeting	0.0264*** (0.0090)	-0.0187 (0.0165)	-0.0177 (0.0164)	-0.0178 (0.0170)	-0.0181 (0.0170)
Manager Confrontation Meeting	-0.0448*** (0.0063)	-0.0014 (0.0114)	-0.0021 (0.0114)	-0.0006 (0.0126)	-0.0003 (0.0126)
Tenure	-0.0131*** (0.0010)	-0.0022 (0.0019)	-0.0022 (0.0019)	-0.0036* (0.0021)	-0.0036* (0.0021)
Tenure <sup>2</sup>	0.0003*** (0.0000)	-0.0001** (0.0001)	-0.0001** (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)
Constant	0.1843*** (0.0530)	0.1560 (0.1162)	0.1509 (0.1159)	0.1810 (0.1350)	0.1820 (0.1352)
Observations	19,225	20,277	20,277	17,771	17,771
R-squared	0.0723	0.6748	0.6749	0.6985	0.6985

*Notes:* All columns include year, campus, and position indicators. Column (1) includes gender and race/ethnicity indicators. Columns (2) through (5) include individual fixed effects, which absorb gender and race. Robust standard errors are clustered by department: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1.



Table 7. Effect of Department CMI Evaluation on Individual Separation

Variable	(1) FE	(2) FE	(3) FE
CMI	0.0044 (0.0086)	0.0067 (0.0082)	0.0040 (0.0083)
Helpful Dept. Avg.	-0.0058** (0.0028)	-0.0058** (0.0028)	0.0044 (0.0066)
CMI Dept. Avg.		-0.0126 (0.0276)	-0.0130 (0.0276)
CMI x Helpful Dept. Avg.			-0.0122* (0.0064)
Compensation (\$1,000s)	-0.0040*** (0.0009)	-0.0040*** (0.0009)	-0.0040*** (0.0009)
Confrontation Meeting	-0.0192 (0.0166)	-0.0193 (0.0166)	-0.0186 (0.0169)
Manager Confrontation Meeting	-0.0016 (0.0117)	-0.0014 (0.0117)	-0.0019 (0.0118)
Tenure	-0.0023 (0.0020)	-0.0023 (0.0020)	-0.0023 (0.0020)
Tenure <sup>2</sup>	-0.0001* (0.0001)	-0.0001* (0.0001)	-0.0001* (0.0001)
Constant	0.1443 (0.1160)	0.1542 (0.1177)	0.1590 (0.1177)
Observations	20,112	20,112	20,112
R-squared	0.6774	0.6774	0.6776

*Notes:* All columns include year, campus, and position indicators. Robust standard errors are clustered by department: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .