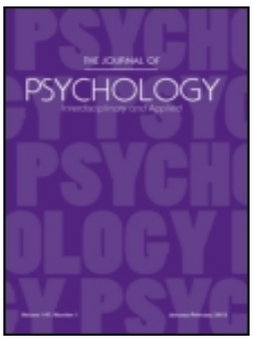

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Can Civility Norms Boost Positive Effects of Management Commitment to Safety?

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ABSTRACT

We proposed that civility norms would strengthen relationships between management commitment to safety and workers' safety motivation, safety behaviors, and injuries. Survey data were obtained from working adults in hazardous jobs—those for which physical labor is required and/or a realistic possibility of physical injury is present ($N = 290$). Results showed that management commitment positively related to workers' safety motivation, safety participation, and safety compliance, and negatively related to minor injuries. Furthermore, management commitment to safety displayed a stronger positive relationship with safety motivation and safety participation, and a stronger negative relationship with minor worker injuries when civility norms were high (versus low). The results confirm existing known relationships between management commitment to safety and worker safety motivation and behavior; furthermore, civility norms facilitate the relationships between management commitment to safety and various outcomes important to worker safety. In order to promote an optimally safe working environment, managers should demonstrate a commitment to worker safety and promote positive norms for interpersonal treatment between workers in their units.

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accidents; civility; injuries; management commitment to safety; safety climate

Approximately 3 million cases of nonfatal workplace injuries and illnesses were reported by U.S. private industry employers in 2013 (Bureau of Labor Statistics, 2014). Administrative and medical costs, wage and productivity losses, and loss of capital associated with workplace injuries and fatalities in 2009 were an estimated $168.9 billion (National Safety Council, 2011). Workplace safety researchers have identified safety climate—workers' perceptions of workplace value of and practices related to worker safety—as a robust leading indicator of worker safety behaviors, accidents, and injuries (e.g., Christian, Bradley, Wallace, & Burke, 2009; Zohar, 2010). Particularly, managers' support of safety is critical to determining the safety attitudes and behaviors of their employees (e.g., Christian et al., 2009).

Yet, there is a call to expand safety climate theory, and this includes a need to identify other constructs that may augment (strengthen) safety climate's relationships with safety outcomes (Zohar, 2010). Of particular importance to safety practitioners is identification of modifiable workplace variables that can strengthen the positive relationships between safety climate and

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worker safety motivation, behaviors and injuries (i.e., optimal working conditions in which safety climate may have the most beneficial relations with safety outcomes). We directly address this research need by examining a potentially important workplace social construct that may influence the relationship between a facet of safety climate (management commitment to safety) and safety outcomes—civility norms—which Walsh et al. (2012) define as "employee perceptions of norms supporting respectful treatment among workgroup members" (p. 409). Specifically, we examine the moderating effects of civility norms on relationships between management commitment to safety and various safety outcomes (safety motivation, safety behaviors, and workplace injuries) in a sample of workers in hazardous jobs. In doing so, we promote understanding of a modifiable boundary condition of safety climate's effects that contributes to safety climate theory development, and we provide information on the functioning of civility norms as a potentially important lever for organizational leaders and unit managers to use to improve worker safety.

Management Commitment to Safety

Management commitment to safety can be best understood as active management involvement in routine and important safety-related policies, practices, and procedures in the workplace (Zohar, 1980). Because of the ability of management to significantly influence the perceptions of a wide variety of organizational factors among workers (Neal, Griffin, & Hart, 2000), management commitment to safety continues to serve as the most widely used indicator of shared perceptions regarding the value or priority of safety in an organization (i.e., safety climate; Flin, Mearns, O'Connor, & Bryden, 2000). Indeed, the core meaning of safety climate has nearly become synonymous with managerial commitment to safety (Zohar, 2008). Workers look to management to inform their perceptions of the value of safety in light of competing demands, such as production output (Zohar, 2010). Managements' priority and value of safety communicated to workers, in turn, informs workers' attitudes and behaviors toward safety (e.g., Christian et al., 2009; Johnson, 2007). We examine this facet of *psychological* safety climate, that is, workers' perceptions of safety climate (James & James, 1989), in line with other researchers (e.g., Morrow et al., 2010) based on the notion that individuals' perceptions of the work environment have important influences on their safety motivation and behaviors (e.g., Clarke, 2006).

The observation that leadership plays an important role in safety behaviors of subordinates is well-documented in the leadership and safety literature (e.g., Barling, Loughlin & Kelloway, 2002; Hofmann, Morgeson, & Gerras, 2003; Zohar & Luria, 2003). Additionally, meta-analytic results show that perceptions of management commitment to safety and supervisor support positively relate to safety behaviors and outcomes via workers' safety knowledge and motivation (Christian et al., 2009). Taken together, evidence suggests that perceptions of management commitment to safety are critical in relating to employee safety behaviors. Next, we elaborate on four safety outcomes in this study and propose hypotheses that align with previous research findings linking management commitment to safety to safety outcomes.

Safety Motivation

Safety motivation is defined as "an individual's willingness to exert effort to enact safety behaviors and the valence associated with those behaviors" (Neal & Griffin, 2006, p. 947).

Research touts the importance of safety motivation; a longitudinal study conducted by Probst and Brubaker (2001) found that safety motivation has a lagged effect on safety compliance. Additionally, a meta-analysis found significant positive relationships of safety motivation with safety compliance and participation behaviors (Christian et al., 2009). The perception that there is a positive, supportive safety climate in the workplace should motivate employees to engage in beneficial safety behaviors; this point is substantiated in Christian et al. (2009) meta-analysis. Specifically, workers should be more motivated to enact safety behaviors when they feel their managers support a safe working environment.

Hypothesis 1a: Management commitment to safety is positively related to safety motivation.

Safety Compliance

Safety compliance refers to behavioral adherence to established safety procedures. These behaviors are "the core safety activities that need to be carried out by individuals to maintain workplace safety" (Griffin & Neal, 2000, p. 349) and include, for example, following correct safety rules (Vinodkumar & Bhasi, 2010). Of the two major components of general job performance described by Borman and Motowidlo (1993)—task performance and contextual performance—compliance maps onto the task performance dimension. As mentioned, evidence exists that management commitment to safety positively relates to workers' safety compliance behaviors (Christian et al., 2009).

Hypothesis 1b: Management commitment to safety is positively related to safety compliance.

Safety Participation

Safety participation behaviors refer to those "that may not directly contribute to workplace safety, but they do help to develop an environment that supports safety" (Griffin & Neal, 2000, p. 349). Safety participation can be likened to safety-specific forms of organizational citizenship behaviors or contextual performance regarding safe practices. Safety participation includes behaviors that employees engage in above and beyond what is required of them regarding safety in the workplace (e.g., putting in extra effort to improve safety at work, voluntarily carrying out tasks to help improve workplace safety; Vinodkumar & Bhasi, 2010). Like safety compliance, safety participation is linked to management commitment to safety (e.g., Christian et al., 2009; Neal & Griffin, 2006).

Hypothesis 1c: Management commitment to safety is positively related to safety participation.

Workplace Injuries

As noted, avoiding workplace accidents and injuries is critical to organizations. Accidents are generally low-frequency events that are often unintentional (Neal & Griffin, 2006); injuries are the actual bodily harm that an employee may suffer as a result of a workplace accident. Workplace injuries are directly linked to management commitment to safety (Vredenburgh, 2002) and also indirectly linked to management commitment to safety through safety motivation, safety knowledge, and skills (Christian et al., 2009).

Hypothesis 1d: Management commitment to safety is negatively related to workplace injuries.

We expect the aforementioned relationships between management commitment to safety and safety outcomes to be strengthened when positive norms exist for workplace civility. In the following sections, we introduce civility norms and discuss why they should strengthen the expected relationships.

Civility Norms

Civility norms refer to the extent to which workers engage in respectful treatment of each other and avoid rude behavior (Walsh et al., 2012). Such disrespectful behaviors are commonly studied under the label of workplace incivility, which captures the array of low-level rudeness in organizations such as not passing along important messages or making snide remarks about colleagues (Andersson & Pearson, 1999). Workplace incivility is widespread, and is accompanied by large costs to human capital and organizational finances (Sutton, 2007). Group norms convey to employees what is and is not acceptable behavior; behavior that deviates from such norms is often corrected by group members (Hackman, 1992). When employees perceive positive civility norms, their workplace is seen as one in which civility is expected and incivility is not tolerated. Indeed, civility norms are negatively correlated with incivility experiences from both supervisors and coworkers (Walsh et al., 2012).

We argue that civility norms provide a foundation—or an optimal environment—in which management commitment to safety can have the most positive relations with worker safety motivation and behavior and negative relations with worker injuries. The theoretical rationale for civility laying the groundwork for safety is based on social exchange theory (e.g., Blau, 1964). Managers—whether intentional or otherwise—set the tone for civility in a workplace (e.g., Porath & Pearson, 2010; 2013). In organizations where it is clear that task performance and treatment of others are not treated as separate entities, employees feel more confident that management is effectively maintaining a civil work environment (Sutton, 2007). If employees perceive positive norms for civility, which in part stems from management proactively maintaining a civil environment at work (e.g., by modeling civility, rewarding for respect, punishing for incivility; Porath & Pearson, 2013), principles of social exchange dictate that they are more likely to reciprocate toward safety-supportive behaviors of a supervisor by demonstrating safety compliance and participation behaviors (Hofmann et al., 2003). In other words, we expect a stronger relation between management support for safety and safety outcomes in this case. Conversely, general norms for *in*civility may indicate a failure of management to maintain a civil environment. In such circumstances, workers may be less motivated to respond in kind to a supervisor's push for safety—and therefore we would expect a weaker relation between management commitment to safety and safety behaviors and outcomes.

A small body of research has substantiated links between interpersonal treatment and safety outcomes. Haines, Stringer, and Duku (2007) found that incivility is associated with worse safety climate and less-frequent use of a safe operating room procedure. Sabbath and colleagues (2014) further found that exposure to verbal abuse at work was associated with healthcare worker injuries. McGonagle, Walsh, Kath, and Morrow (2014) found an indirect relation between civility and worker safety behaviors and injuries via safety climate subdimensions (management safety climate, coworker safety climate, and work-safety tension).

The current study uniquely contributes to the literature by testing workplace civility norms as a moderator of safety climate-safety outcomes links.

Hypothesis 2 a-d: Civility norms moderate relationships between management commitment to safety and (a) safety motivation, (b) safety compliance, and (c) safety participation, such that these relationships are more strongly positive with higher levels of civility norms; the relationship between management commitment to safety and (d) workplace injuries is more strongly negative with higher levels of civility norms.

Materials and Methods

We tested our hypotheses using survey data collected from working adults ($N = 290$). We chose specifically to focus on workers in jobs that involved physical labor and/or where a realistic possibility of injury was present, given our focal outcome variables.

Participants and Procedure

We used a combined sample attained from various sources; researchers at three U.S. universities collaboratively collected data. Individuals who were working at least 10 hours per week for pay were recruited to complete an online survey. Participants from University 1 were working adults who were also students of the University and volunteered to participate via an online psychological research recruitment system to earn course credit. Students from Universities 2 and 3 were instructed on field research methods, recruited working adults to complete the survey, and received course credit for completed surveys.

In total, 1,424 participants in various jobs completed the survey. Insufficient effort responding (IER) items were included to detect careless responding (e.g., "Please select strongly agree for your response to this question"); 159 participants were removed based on IER because they failed more than one of these items (Huang, Curran, Keeney, Poposki, & DeShon, 2012). Additionally, as explained in the following section, we coded job titles to identify a subset of eligible participants who worked in hazardous jobs using O*NET ratings. Of respondents who did not fail more than one IER item and were able to be matched with an O*NET hazard rating based on job titles and descriptions provided, a total of 290 participants worked in hazardous jobs (as defined in the following paragraph) and were included in the final dataset. The average age of respondents was 33.02 ($SD = 14.02$), 46% were male and 64% reported working full-time. The average organizational tenure was 7.66 years ($SD = 9.27$). The large *SD* for organizational tenure reflects the diversity of the sample; some were likely working jobs that were to earn money for college and were in positions seen as more temporary, whereas others were in career positions.

*O*NET coding*. Because the initial sample of participants held diverse jobs, which ranged from low to high levels of safety hazards, and our hypothesized relations among variables are relevant to test only for jobs with physical safety hazards, we coded participants' jobs using the Occupational Information Network (O*NET) framework and data using a similar approach to that taken by Ford and Tetrick (2011). All study participants indicated their job titles and a brief job description in an open text format. These jobs were then coded by four independent coders (graduate and undergraduate psychology students), who assigned Bureau of Labor Statistics (BLS) standard occupation codes (SOC codes) to each job title. A

subset of job titles ($N = 94$) were coded by two coders separately in order to determine inter-rater agreement. The two coders agreed on 76% of the prefixes and 66% of the suffixes.

O*NET data from items representing four relevant work context factors—setting, environmental conditions, hazards, and physical demands—was then merged with the survey response data using the common O*NET code. Scores for items that comprised each of the four work context categories were then averaged, and an overall average "hazard" score was computed for each respondent/job. We used the median of overall hazard scores across the datasets (2.01) as a cutoff to classify jobs as "high hazard." Examples of "high hazard" jobs include: lifeguard, phlebotomist, police cadet, cook, security officer, gas station clerk, bus driver, and pizza delivery driver.

Measures

Unless otherwise noted, all items were measured on a 7-point Likert-type scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The current study items were included in a larger survey; to prevent participant fatigue, some scales were shortened from their published versions. See Table 1 for coefficient alpha values.

Management Commitment to Safety

We used three items from Vinodkumar and Bhasi (2010). A sample item is, "Management considers safety to be as important as production."

Safety Motivation

Three items were used from Vinodkumar and Bhasi (2010), for example, "I feel that it is worthwhile to put in effort to maintain or improve my personal safety."

Safety Participation

Three items were used from Vinodkumar and Bhasi (2010), for example, "I put in extra effort to improve the safety of my workplace."

Safety Compliance

Three items from Vinodkumar and Bhasi (2010) were used, for example, "I follow correct safety rules and procedures while carrying out my job." Note that responses to these items were only attained from a subset of the full sample ($N = 190$).

Table 1. Descriptive statistics and bivariate correlations.

Variable	*M*	*SD*	1	2	3	4	5	6	7
1. Management Commitment to Safety	5.57	1.38	.94						
2. Civility Norms	5.05	1.36	.56***	.89					
3. Safety Motivation	6.14	0.86	.41***	.27***	.94				
4. Safety Participation	5.35	1.28	.44***	.28**	.53***	.86			
5. Safety Compliance	5.72	0.99	.37***	.24***	.57***	.51***	.93		
6. Minor Injuries	2.79	2.72	−.20**	−.23**	−.11	−.13*	−.06	–	
7. Major Injuries	0.27	0.81	−.19**	−.09	−.05	−.05	.29***	.38***	–

Note. $N = 267–290$ for all variable combinations except for those including safety compliance, for which $N = 177–190$. Coefficient alpha is along the diagonal.
***$p < .001$.**$p < .01$.*$p < .05$.

Workplace Injuries

We measured both a) minor and b) major injuries using items from Smecko and Hayes (1999). Participants were asked to indicate the frequency (0–8+) of injuries they incurred on the job in the last six months: "…minor injuries (e.g., scratches, cuts, bruises, or sprains) …" and "…major injuries (resulting in lost time from work)…" We analyzed each as a separate dependent variable, labeled "minor injuries" and "major injuries."

Civility Norms

We used the four-item Civility Norms Questionnaire—Brief (Walsh et al., 2012), for example, "Respectful treatment is the norm in your unit/workgroup." For more information on this construct and scale validity, see Walsh et al. (2012).

Working Status

Participants either indicated their working status as full-time (1) or part-time (2), or provided the average number of hours they worked per week. For those who provided working hours, we denoted anyone working 30 hours or more per week as "full-time" and those working less than 30 hours per week as "part-time." We controlled for working status in our analyses, due to the notion that working more hours presents a greater likelihood of injury.

Results

Descriptive statistics and bivariate correlations are presented in Table 1. Prior to testing our hypotheses, we estimated a confirmatory factor analysis model to demonstrate construct validity of our measures. Results, which are found in Table 2, support our hypothesized

Table 2. Measurement model fit and alternative model comparison tests.

	Model	χ_2	*Df*	CFI	RMSEA	SRMR
1.	5-factor hypothesized model	247.23	94	.954	.075	.044
2.	4-factor (civility norms & management commitment combined)	639.32	98	.837	.138	.084
3.	4-factor (safety motivation & safety compliance combined)	399.05	98	.909	.103	.062
4.	4-factor (safety compliance & safety participation combined)	488.72	98	.882	.117	.070
5.	4-factor model (safety motivation & safety participation combined)	425.74	98	.901	.107	.057
6.	3-factor model (all three safety outcomes combined)	614.17	101	.845	.132	.073
7.	1-factor model (all combined)	1716.88	104	.514	.231	.138

Chi Square Model Comparison Tests

Δ Models	$\Delta\chi^2$	Δdf	χ^2 Critical Value; $p = 0.05$
Model 1 vs. Model 2	392.09***	4	9.49
Model 1 vs. Model 3	151.82***	4	9.49
Model 1 vs. Model 4	241.49***	4	9.49
Model 1 vs. Model 5	178.51***	4	9.49
Model 1 vs. Model 6	366.94***	7	14.07
Model 1 vs. Model 7	1469.65***	10	18.31

Note. The 5-factor hypothesized model includes all multiple-item scales as separate latent variables: civility norms, management commitment to safety, safety motivation, safety participation, and safety compliance.
***$p < .001$.

Table 3. Interactions of management commitment to safety with civility norms on safety motivation, safety compliance, and safety participation.

	Safety Motivation b or R^2	Safety Participation b or R^2	Safety Compliance b or R^2
Step 1: Working Status (part-time)	−.10	−.01	−.24
R^2	.00	.00	.01
Step 2:			
Working Status (part-time)	−.12	−.06	−.29*
Management Comm. to Safety	.35***	.57***	.35***
Civility Norms	.04	.04	.06
R^2*change*	.18***	.20***	.15***
R^2	.19	.21	.17
Step 3:			
Working Status (part-time)	−.07	−.01	−.27
Management Comm. to Safety	.43***	.65***	.38***
Civility Norms	.09	.08	.09
Management Comm. to Safety*Civility Norms	.20***	.20**	.08
R^2*change*	.07***	.03**	.01
Total R^2	.25	.24	.18

Note. $N = 269$ (safety motivation); $N = 265$ (safety participation); $N = 175$ (safety compliance). Unstandardized coefficients presented after standardizing predictor variables (Dawson, 2014). Ordinary Least Squares Regression used.
***$p < .001$.**$p < .01$.*$p < .05$.

factor structure and demonstrate superiority of this model over several alternative measurement models. In line with recommendations from Dawson (2014), we used moderated hierarchical multiple regression analysis with standardized independent and moderator variables to test our hypotheses when safety motivation, safety compliance, and safety participation were the outcome variables. We used Poisson regression with standardized independent and moderator variables when minor and major injuries were the outcome variables due to the count nature of the injuries variables. The control variable, working status, [1] was entered into Step 1, followed by management commitment to safety and civility norms variables in Step 2, followed by the product of civility norms and management commitment to safety in Step 3 when relating to safety motivation, compliance, and participation to obtain the statistical significance of changes in R squared values. Due to the count (Poisson) distribution of the injuries variables, R squared values are not available; the predictors and moderator were entered simultaneously for these outcomes. We plotted statistically significant interactions using Dawson and colleagues' (Dawson, 2014; Dawson & Richter, 2006) Excel-based tools.

Unstandardized regression coefficients are displayed in Tables 3and 4. Hypotheses 1a–c were supported in both samples: management commitment to safety was significantly related to safety motivation, safety compliance, and safety participation. Hypothesis 1d was

[1]Following recommendations of Carlson and Wu (2012), we only sought to include variables as controls when they displayed significant relations with our focal variables and there was theoretical reason to expect them to influence our hypothesized relations. We also assessed organizational tenure as a possible control variable. In our sample, the correlations of organizational tenure with safety motivation, management commitment to safety, civility norms, safety participation, and minor injuries were nonsignificant. However, the correlations of organizational tenure with major injuries and safety compliance were significant. Therefore we re-ran our analyses of both of these variables including organizational tenure as a control variable. Our revised results were identical to our originally attained results in terms of statistical significance (and therefore interpretation as well); therefore, we omitted organizational tenure as a control variable in our analyses and reported results in this paper.

Table 4. Interactions of management commitment to safety with civility norms on injuries.

	Minor Injuries b	Major Injuries b
Working Status (Part-time)	.23**	−.50***
Management Commitment to Safety	−.18**	−.52***
Civility Norms	−.19***	.12
Management Commitment to Safety*Civility Norms	−.13***	.06

Note. $N = 268$. Unstandardized coefficients presented after standardizing predictor variables (Dawson, 2014). Poisson regression used.
***$p < .001$. **$p < .01$. *$p < .05$.

also fully supported, as management commitment to safety was related to both minor and major injuries.

Hypothesis 2 was partially supported. Civility norms significantly interacted with management commitment to safety in relation to safety motivation, safety participation, and minor injuries. However, civility norms did not interact with management commitment to safety in relating to safety compliance or major injuries.

We plotted the unstandardized regression coefficients at the values of one standard deviation above and below the mean of civility to observe the nature of the significant interaction effects (see Figures 1 and 2 for examples of significant interaction plots). In all cases, high levels of civility norms were associated with stronger relationships between management commitment to safety and the outcome variables, as expected (relationships between management commitment to safety and safety motivation and participation were more strongly positive and relationship between management commitment to safety and minor injuries was more strongly negative). We also conducted simple slopes analyses for one standard deviation above and below the mean of civility norms, using Excel-based tools from Dawson (2014) for the normally distributed outcomes and the indirect method for the Poisson-distributed injuries outcome, which involves centering the moderator around the testing

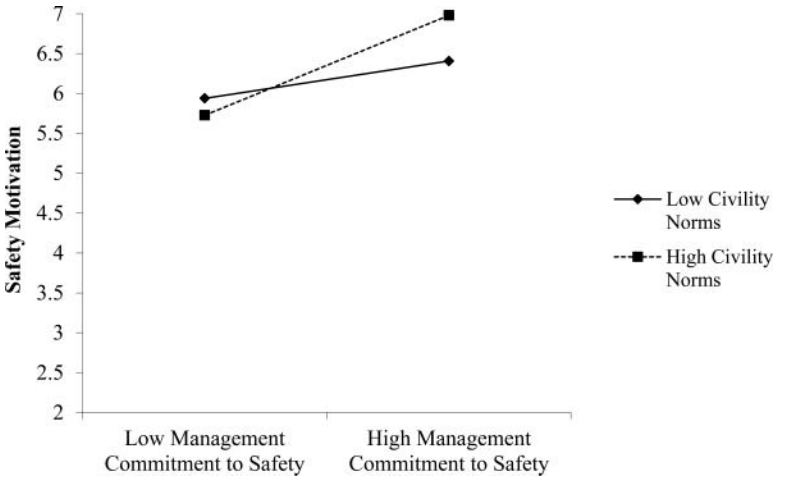

Figure 1. Interaction plot example: Management commitment to safety x civility norms on safety motivation.

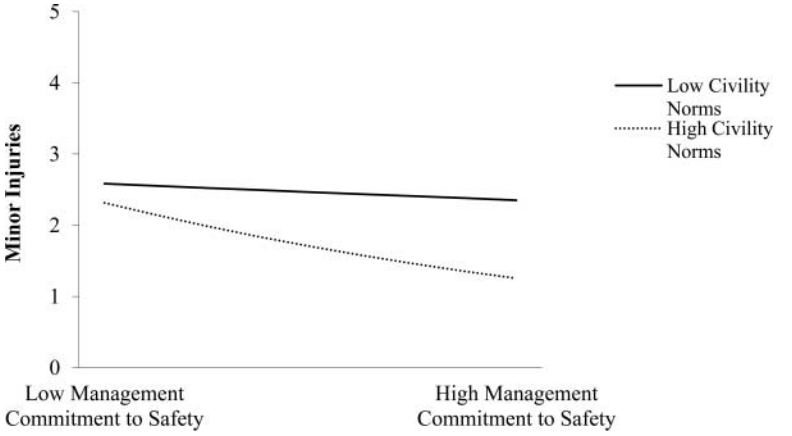

Figure 2. Interaction plot example: Management commitment to safety x civility norms on worker minor injuries.

values, re-calculating the interaction term and interpreting the coefficient of the independent variable at each test value as the value of the simple slope (see Dawson, 2014). Results are in **Table 5**. For safety motivation and participation, simple slopes were significant at both high and low levels of civility norms, yet in all cases stronger estimates were attained at higher levels of civility norms, as expected. For minor injuries, slopes at high levels of civility norms were negative and significant, whereas they were nonsignificant at low levels of civility norms. Overall, these results are in line with our proposed "amplifying" effect of civility norms on relations between management commitment to safety and safety outcomes.

Discussion

Our findings provide further support for positive relationships between management commitment to safety and safety motivation, participation, and compliance behaviors, and negative relationships between management commitment to safety and minor and major injuries. Importantly, we also found support for the hypotheses that high levels of civility norms are associated with stronger positive relationships between of management commitment to safety and worker safety motivation and safety participation behaviors, and stronger negative relationships between management commitment to safety and minor worker injuries. These findings provide some evidence for the notion that civility plays a role in social exchange processes that underlie workers' safety motivation and propensity to enact safety

Table 5. Simple slopes analysis results for significant interactions.

Outcome Variable	High Civility Norms Slope Gradient	Low Civility Norms Slope Gradient
Safety Motivation	.63***	.23***
Safety Participation	.85***	.45***
Minor Injuries	−.31***	−.05

Note. Coefficients represent slope gradients of management commitment to safety on each outcome variable at low (−1 *SD*) and high (+1 *SD*) values of civility norms.
***$p < .001$.

behaviors. These findings also contribute to safety climate theory by identifying one factor with the potential to modify the relations between safety climate and safety outcomes (*cf.* Zohar, 2010). Norms for civility appear to operate as a lever with the potential to strengthen the relations between safety climate and safety outcomes. Moreover, although safety climate is generally a leading indicator of key safety outcomes (Christian et al., 2009), our results show that its influence with respect to safety motivation, safety participation, and minor injuries, is not uniform and varies based on the degree to which workplace civility norms are present.

While some support was observed for the moderating role of civility norms, this was not the case for all outcomes. It is interesting that the interactions of management commitment to safety and civility norms did not hold for safety compliance and major injuries as it did for minor injuries and the other safety variables. The results for safety compliance may be due to social exchange processes being less relevant for this variable, as they represent behaviors that are necessary in order to keep workers physically safe and prevent bodily harm. In other words, compliance behaviors may be less amenable to fluctuations due to social processes because they are meant to protect the individual him or herself and do not contribute to a generally safe working environment, as do safety participation behaviors.

The results for major injuries could be due to the low numbers of major injuries in our samples; this low base rate makes this variable difficult to predict. This issue is further compounded with range restriction due to a tendency to under-report injuries (Christian et al., 2009). It is also worth noting that injuries have sometimes been situated as a more distal outcome of safety compliance and participation behaviors (Christian et al., 2009) and not a direct outcome of safety climate. Due to our primary focus in this study on civility norms as a moderator, along with other studies demonstrating this effect, and our lack of longitudinal data, we did not test mediation models. Future longitudinal research studies may investigate and find evidence for an indirect relationship of management commitment to safety to injuries through the path of safety performance (compliance and participation) that is conditional on levels of civility norms (moderated meditation). Future research predicting major injuries may also include samples wherein major injuries occur over the course of several years, which would provide a higher base rate and enable better prediction. Overall, it is important to note that we did not find evidence supporting moderation effects on major injuries and additional research is needed.

This study conceptualizes civility norms in a different way than McGonagle et al. (2014). Specifically, rather than directly relating to safety climate and safety outcomes, we proposed moderating effects of civility norms. However, the two findings are not mutually exclusive and indeed we did find some support for direct relations between civility norms and most of the safety outcomes as seen in the bivariate correlations. This study presents another, complementary way of viewing civility norms, with the same implications and impetus for management to pay attention to creating norms for civility in the workplace.

Findings from our study have implications for management practice in organizations, especially where worker safety is a pressing concern. The main implication of this study is that although safety climate, including management commitment to safety, is critical for keeping workers safe, managers also need to attend to workplace environment issues that may provide an optimal environment for safety climate to "work." We found initial evidence that civility norms are critical for enhancing the positive effects of safety climate. Consequently, organizational leaders and unit managers should consider the role of civility norms

when developing ways to effectively promote safety motivation and behaviors of workers, and perhaps look to literature on civility interventions (see Leiter, Laschinger, Day, & Gilen-Oore, 2011) in doing so. Moreover, these results provide a clear incentive for managers to pay attention to civility in the workplace. Without paying attention to the importance of civility, our results suggest that a manager's own commitment to safety and attempts to encourage a safe workplace will have a diminished impact on employee safety outcomes.

Limitations

Although the present study contributes to safety climate theory and research on the connection between civility and safety, methodological limitations should be noted. One limitation of this study is its cross-sectional, self-report design, which suggests that common method variance (CMV) may be a concern. Yet, in their meta-analysis of the safety literature, Christian et al. (2009) found no evidence for CMV bias in relations of self-report climate measures and self-rated safety performance ratings; furthermore, the authors note that under-reporting of unsafe behaviors and injuries may lead to attenuated, rather than inflated correlations with climate variables. Additionally, when present, CMV can actually make it more challenging to detect interaction effects (Siemsen, Roth, & Oliveira, 2010). Nevertheless, future similar research should incorporate longitudinal and/or external data sources such as supervisors' ratings of employees' safety behaviors or organizational records.

Additionally, we note that the focus and implications of this study are limited to those in potentially hazardous jobs and are not necessarily relevant for jobs that do not pose a risk to physical safety. We used O*NET ratings as an external data source to help us identify jobs that were hazardous, which we feel is a strength of our study overall. However, in doing so, we chose to use a median value cutoff, which reflects the hazard levels in our particular sample and may be different than the hazard levels of other samples. We chose this approach in the absence of existing cutoff values to determine hazardous jobs. Future research should identify and incorporate nonsample specific cutoff values for determining hazardous jobs.

Furthermore, we did not attempt to classify types of hazards associated with different jobs because we did not have any reasons to expect differences in the way our predictor variables and moderators related to our dependent variables based on type of hazard/injury. For instance, management commitment to safety has been found to predict worker safety behaviors, motivation and injuries across a wide array of job types (Christian et al., 2009). However, future research may further explore whether there are reasons to expect differential relations of management commitment to safety and civility norms with different types of injuries, and where there is empirical support for such differences. Finally, in terms of control variables, we examined working status, which we included in our analyses, and organizational tenure, which we did not include in our analyses. Another variable that could possibly be a control variable is age, as it relates to organizational tenure. We did not have information on the ages of many of our participants; therefore, we did not include it as a control variable in this study. Future research may examine whether age affects our hypothesized relations.

Conclusion

Our findings support the notion that management commitment to safety positively relates to worker safety motivation and safety behaviors, and negatively relates to worker injuries.

Importantly, we also found that high levels of civility norms were associated with both stronger positive relationships between management commitment to safety and worker safety motivation and safety participation behaviors and stronger negative relationships between management commitment to safety and minor worker injuries. The message from the present study is clear: if managers want to maximize their own impact on employee safety, they should demonstrate commitment to worker safety and also create positive norms for civility.

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