

R.E.S.P.E.C.T. and What It Means for Rail Safety

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Purpose/objectives

The purpose of the present study is to examine and extend research on a contextual/modifiable workplace variable, civility norms, that has been shown at the individual-level of analysis to enhance the positive relationship between psychological safety climate and individual safety behaviors. In our study, we hypothesize similar relationships at level-one and further probe cross-level interactive effects when civility and safety climate are treated as climate variables that represent shared organization-level perceptions.

Background

Research consistently demonstrates that a positive organizational safety climate, or “shared employee perceptions about the relative importance of safe conduct in their occupational behavior” (Zohar, 1980, p. 96), has a positive impact on workplace safety (Christian et al., 2009). Less is known, however, about other contextual/modifiable workplace variables that might affect this positive relationship. Identifying and exploring such variables will answer the call to expand existing safety climate theory (Zohar, 2010) and support the development and maintenance of optimally safe work environments.

Previous research suggests that civility norms, or general norms for respect in the workplace (Walsh et al., 2012), is a variable that requires additional attention. At the individual-level, perceptions of these norms have been shown to relate with various psychological safety climate facets and individual safety outcomes (McGonagle et al., 2014; McGonagle et al., 2016). Given that stronger relationships between safety climate and individual safety outcomes have

been observed when safety climate is measured at the group-level (Christian et al., 2009), the present study adds to existing safety climate theory and further examines cross-level effects of civility norms and safety climate when treated as group-level variables.

Methods

Archival survey data from 2,164 workers employed at 50 short line and regional railroads across the U.S. is used to examine if civility norms amplify the positive relationship between safety climate and safety outcomes; namely, individual safety behaviors and risk-avoidance behaviors. Data were gathered as part of the Short Line Safety Institute's (SLSI) safety culture assessment conducted at these railroads. Civility norms (six-items) and safety climate perceptions (11-items) were measured at the individual-level. Their items were written to reflect the target of participants' perceptions (the organizations participants were nested in) and were aggregated in later analyses to reflect group-level perceptions of safety and civility climate. Participants' risk-avoidance (three-items) and individual safety behaviors (four-items) were self-reported. All survey items were scored on a 1-5 Agree/Disagree scale, where higher scores indicated more positive perceptions/behaviors. The internal consistency (α) of scales employed in this study ranged from 0.75 to .93.

Findings

All study variables were measured and first tested at the individual-level. Two moderated multiple regression analyses were conducted with the SPSS Process macro (Model 1; Hayes, 2012), using individual safety and risk-avoidance behaviors as the dependent variables. We observed significant direct effects of safety climate and civility perceptions on self-reported individual safety ($b = .253, SE = .025, p < .001$; $b = .041, SE = .02, p < .05$) and risk-avoidance behaviors ($b = .412, SE = .039, p < .001$; $b = .092, SE = .03, p < .01$), respectively. A significant

interaction effect was also observed, such that perceptions of civility norms enhanced the relationship between individual safety climate perceptions and safety behaviors ($b = .051$, $SE = .011$, $p < .001$); no significant interactive effect was found for risk-avoidance behaviors ($p = .125$).

We next aggregated individual perceptions of safety climate and civility norms to the organizational/railroad-level and used Hierarchical Linear Modeling (HLM) to examine cross-level effects on individual safety and risk-avoidance behaviors. Organization-level safety climate and civility norms both independently and positively predicted individual safety ($b = .281$, $SE = .057$, $t = 5.078$; $b = .235$, $SE = .041$, $t = 5.633$) and risk-avoidance behaviors ($b = .53$, $SE = .085$, $t = 6.215$; $b = .386$, $SE = .066$, $t = 5.807$), respectively. Organization-level civility norms and safety climate did not interact to affect either safety-related outcome.

Discussion

Our findings indicate that perceived civility norms enhance the positive relationship between individual-level perceptions of safety climate and individual safety behaviors, but do not produce cross-level interactive effects when civility and safety climate are treated as climate variables that represent shared organizational-level perceptions. In our discussion, we consider the extent to which safety climate and civility norms might be overlapping constructs and how the strength of these climates in the sample we drew may not be strong enough to detect cross-level organizational effects on individual behaviors that go beyond the individual effects we observed.

Conclusion

The results of this study bolster and extend previous research, and highlight a modifiable workplace variable, positive norms for civility, that can be targeted to amplify the positive effect

of safety climate on safety behaviors and help foster optimally safe work environments in the railroad industry.

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