

Group Dynamics and Air Traffic Controllers' Safety Behaviors: Self-efficacy as A Mediator

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Abstract. Air traffic controllers (ATCers) typically work under fixed team schedules, and the interaction of group members may significantly impact their behaviors. To understand the mechanism by which group characteristics affect the safety behaviors of individual ATCers, this study problematizes the variables of group dynamics and self-efficacy in this setting and proposes a mediation model in which group dynamics impact safety behaviors through self-efficacy. Data were collected using a self-reported questionnaire survey from 85 Chinese ATCers in two Air Traffic Administrations. The results revealed that the indirect effects of two subdimensions of group dynamics (group cohesion and group infectivity) on safety behaviors via self-efficacy were salient, whereas group pressure was not correlated with safety behaviors. This finding implied the partial mediation role of self-efficacy, which was expected to redress an omission in the influence path from group dynamics to safety behaviors from the cognitive mechanism perspective. The results can facilitate a better understanding of how group characteristics impact safety behaviors and also help develop efficient measures to reduce ATCers' safety performance at the group level.

Keywords. Self-efficacy, Group dynamics, ATCers, Safety behaviors, Mediator

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