Organizational Climate Effects on the Relationship Between Emotional Labor and Turnover Intention in Korean Firefighters

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ABSTRACT

Background: The purpose of this study is to examine the combined effects of organizational climate (OC) with emotional labor (EL) on turnover intention in Korean firefighters.

Methods: The data were obtained from the study Firefighters Research: Enhancement of Safety and Health. A total of 4,860 firefighters whose main duty was providing “emergency medical aid” were included. To examine the effects of OC on the relationships between five subscales of EL and turnover intention, four groups were created using various combinations of OC (“good” vs. “bad”) and EL (“normal” vs. “risk”): (1) “good” and “normal” (Group I), (2) “bad” and “normal” (Group II), (3) “good” and “risk” (Group III), and (4) “bad” and “risk” (Group IV). Multivariate logistic regression analyses were performed to estimate the risk of turnover intention for the combinations of OC and EL.

Results: The results showed turnover intention was significantly higher in the group with “bad” OC (17.7%) than in that with “good” OC (7.6%). Combined effects of OC and EL on turnover intention were found in all five subscales with the exception of Group I for emotional demands and regulation. Groups II, III, and IV were more likely to experience risks of turnover intention than Group I (p for trend <0.001).

Conclusions: A positive and cooperative OC plays a role in decreasing the risk of turnover intention and in attenuating the negative effects of EL on turnover intention in firefighters.

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1. Introduction

First identified by Hoschschild [1], emotional labor (EL) is regarded as one of the main issues in public and occupational health research. Defined by Ashforth and Humphrey as the behavior of expressing socially required emotions in performing duties [2]. Recently, EL occupations have rapidly been expanding across all service sectors. One group that faces various emotional demands during the performance of duties are firefighters. They are exposed to emotional regulation or suppression during firefighting, transporting patients, and providing emergency medical services [3]. In addition, they are exposed to various types of violence—from clients, patients, and patients’ families—during emergency calls. It has been reported that the job stress caused by EL hinders effective emergency medical aid provision, reduces job satisfaction, and increases the risk of burnout [4,5].

High turnover rate is one of the most pressing issues among Korean firefighters. In accordance with a survey on the human rights status of firefighters in 2015, firefighters showed the highest turnover rate within five years of employment, at approximately 20% [6]. With respect to organizational management, a high turnover rate has a negative influence on an organization’s effectiveness by causing financial losses and reducing the morale of other workers [7]. Even if additional firefighters are hired to address the lack of firefighters, temporal staffing cannot be the best solution because the new firefighters may also quit due to the same issues [8].

Previous studies have reported that burnout among employees caused by EL is one of the most significant risk factors for turnover intention [5,10]. Identifying and managing turnover intention is
important because the persistent attitude to leave a job is more likely to contribute to turnover. A growing body of literature has identified and emphasized the moderating factors that amplify or buffer the negative results of EL. Some studies have identified organizational culture and climate as moderating factors in the relationship between EL and its adverse outcomes [11,12].

The concept of organizational climate (OC) has been widely discussed. Jorde-Bloom defined OC as “the awareness of the organization members on the status and situation of the organization” [13]. OC may play a crucial role in relation to members’ behavior, levels of motivation, and organizational commitment [14,15]. A cooperative and friendly OC among members may alleviate negative conditions such as emotional disharmony or dissonance. In turn, fewer negative conditions may lead to a decrease in the risk of turnover intention. Although firefighters cannot avoid EL, a positive OC could be achieved through organizations’ internal efforts to reduce job stress.

The purpose of this study, therefore, is to examine the combined effects of OC with EL on turnover intention in Korean firefighters.

2. Materials and methods

2.1. Study participants

Data were obtained from the study Firefighters Research: Enhancement of Safety and Health (FRESH), funded by the National Fire Agency in Korea. A total of 4,860 firefighters whose main duty was providing “emergency medical aid” were included. This study was approved by the Institutional Review Board of Yonsei University for the protection of the rights and privacy of participants (Approval No. CR318335).

2.2. Measures

We collected the data using an online self-reported questionnaire, which comprised the following: (1) general characteristics (7 items), (2) occupational characteristics (3 items), (3) EL (26 items), (4) OC (5 items), and (5) turnover intention (1 item).

2.2.1. Emotional labor

EL measurement was carried out using the Korean Emotional Labor Scale, which consists of five subscales [16]: (1) emotional demands and regulation (5 items), (2) overload and conflict in customer service (3 items), (3) emotional disharmony and hurt (6 items), (4) organizational surveillance and monitoring (3 items), and (5) lack of a supportive and protective system in the organization (7 items). Each subscale was rated on a scale of 1 (“disagree completely”), 2 (“disagree”), 3 (“agree”), and 4 (“agree completely”). Next, the five subscales of EL were divided into “normal” and “risk” groups in accordance with the guidelines of the Korean Emotional Labor Scale [16]. The reliability coefficients (Cronbach’s $\alpha$) for the five subscales of EL used in this study ranged from 0.774 to 0.927.

2.2.2. Organizational climate

The OC was measured using a five-item scale from the FRESH study, as described in the following:

(1) There is a good harmony between the members of the organization.
(2) There are many disputes or arguments about how to work among the members.
(3) There is no integration between members.
(4) The relationships between my department and others are good.
(5) There is good cooperation between the departments I belong to and others.

Items (1), (4), and (5) were rated using a four-point scale: 1 = “disagree completely,” 2 = “disagree,” 3 = “agree,” and 4 = “agree completely.” Items (2) and (3) were rated through reverse scoring. OC was calculated by summing the five items, with total scores ranging from 5 to 20.

2.2.3. Turnover intention

Turnover intention was asked as a dichotomous variable of either “yes” or “no” in the FRESH study in response to the question, “Have you at any time in the past year thought of quitting or moving out of work due to job difficulties or conflicts?”

2.3. Statistical analysis

To identify the general and occupational characteristics of the participants, a descriptive analysis was conducted. To compare EL,
OC, and turnover intention for each characteristic, we conducted a chi-square test.

To examine the effects of OC on the association between EL and turnover intention, three statistical analyses were performed. The first involved analyzing the odds ratios of turnover intention by EL ("normal" vs. "risk") through the subgroup analysis stratified OC ("good" vs. "bad"). The second involved estimating the odds ratios of turnover intention in accordance with the various combinations of the five subscales of EL and OC. To do this, four groups were created using various combinations of OC ("good" vs. "bad") and EL ("normal" vs. "risk"): (1) “good” and “normal” (Group I), (2) “bad” and “normal” (Group II), (3) “good” and “risk” (Group III), and (4) “bad” and “risk” (Group IV). The third examined the moderating effect of OC on the association between EL and turnover intention using an interactive term (OC*EL). A multivariate logistic regression analysis was conducted to estimate the risk of turnover intention, and p < 0.05 was considered significant.

## 3. Results

### 3.1. General characteristics of participants

Most participants were aged 30–39 years: among them 488 (10%) were aged younger than 29 years, 2,761 (56.8%) were aged 30–39 years, 1,221 (25.1%) were aged 40–49 years, and 390 (8.0%) were aged older than 50 years. There were 4,237 (87.2%) men and 623 (12.8%) women. Regarding educational level, 2,869 (59.0%) were undergraduates, 1,944 (40.0%) were college graduates, and 47 (1.0%) had postgraduate degrees. In terms of marital status, 2,890 (59.5%) were married, 1,927 (39.7%) were unmarried, and 43 (0.8%) were divorced. Regarding weekly alcohol consumption, 1,500 (30.9%) consumed no alcohol, 2,773 (57.1%) consumed alcohol 1–2 times per week, and 587 (12.1%) did so more than three times a week. Overall, 2,024 (41.6%) participants had (subjectively) good health conditions, and 613 (12.6%) had bad health conditions.

The occupational characteristics of the individuals were classified into five categories: 47 (1.0%) had no work shifts, 157 (3.2%) had 24-hour shifts, 118 (2.4%) had two shifts, 4,304 (88.6%) had three shifts, and 234 (4.8%) had other shifts. Position wise, we had 1,090 lieutenants and higher. In total, 2,178 (44.8%) firefighters had been working in the job for less than five years, 1,256 (25.8%) for more than five years but less than 10 years, 645 (13.3%) for more than 10 years but less than 15 years, and 780 (16.0%) for more than 15 years (Table 1).

### 3.2. Distributions of turnover intention in accordance with EL and OC

The chi-square test was conducted to examine the differences in turnover intention by the level of EL. We found that the risk group had a higher rate of turnover intention than did the normal group in all five subscales (emotional demands and regulation: normal 13.1% vs. risk 27.0%; overload and conflict in customer service: normal 13.2% vs. risk 27.6%; emotional disharmony and hurt: normal 12.1% vs. risk 32.3%; organizational surveillance and monitoring: normal 11.6% vs. risk 25.7%; and lack of a supportive and protective system in the organization: normal 9.9% vs. risk 17.7%).
Turnover intention was significantly higher in the group with “bad” OC (17.7%) than in that with “good” OC (7.6%) (Table 2).

### 3.3. Effects of OC on the relationship between EL and turnover intention

As shown in Table 3, all subscales of EL were associated with turnover intention in a “bad” OC and a “good” OC, but odds ratios of turnover intention in a “bad” OC were relatively higher than those in a “good” OC.

Then, we estimated the odds ratios of turnover intention in accordance with the various combinations of the five subscales of EL and OC after adjustment for control variables. In the relationship between EL and turnover intention, the combined effects of the OC was found in all five subscales with the exception of Group I for emotional demands and regulation. Group III (odds ratio [OR]: 2.06, 95% confidence interval [CI]: 1.50–2.82) and Group IV (OR: 4.11, 95% CI: 2.90–5.82) were more likely than Group I to experience turnover intention for emotional demands and regulation (p for trend <0.001). For the other subscales of EL, the results were similar. First, Groups II (OR: 1.97, 95% CI: 1.18–3.30), III (OR: 2.17, 95% CI: 1.58–2.98), and IV (OR: 4.38, 95% CI: 3.08–6.23) were more likely to experience turnover intention than Group I was for overload and conflict in customer service (p for trend <0.001). Second, Groups II (OR: 2.31, 95% CI: 1.39–3.83), III (OR: 2.13, 95% CI: 1.55–2.94), and IV (OR: 5.47, 95% CI: 3.84–7.77) were more likely to experience turnover intention than Group I was for emotional disharmony and hurt (p for trend <0.001). Third, Groups II (OR: 1.69, 95% CI: 1.01–2.80), III (OR: 1.87, 95% CI: 1.36–2.57), and IV (OR: 3.74, 95% CI: 2.69–5.20) were more likely to experience turnover intention than Group I was for organizational surveillance and monitoring (p for trend <0.001). Fourth, Groups II (OR: 1.90, 95% CI: 1.15–3.15), III (OR: 1.71, 95% CI: 1.23–2.37), and IV (OR: 3.82, 95% CI: 2.75–5.30) were more likely to experience turnover intention than Group I was for lack of a supportive and protective system in the organization (p for trend <0.001). The results showed that EL was more likely to increase the risk of turnover intention in people who were working in a “bad” OC than those working in a “good” OC after adjusting for control variables. We found that people who were in risk groups in both EL and OC were more likely to experience turnover intention than those in the normal groups (Table 4) (Fig. 1).

![Fig. 1. Odds ratios for turnover intention in accordance with the four types of combinations of five subscales of emotional labor with organizational climate.](image-url)
4. Discussion

The present study found that high levels of EL increase the risk of turnover intention in firefighters, while a friendly or cooperative OC decreases it. A growing body of literature has suggested that the association between EL and turnover intention may not be a direct causal relationship. For example, Lindquist and Whitehead [17] reported that EL causes job stress, which in turn affects job satisfaction or turnover intention. Nixon et al. [18] also supported the theory that EL in the workplace increases psychological stress and causes adverse consequences such as turnover. In addition, Zapf [19] reported that EL, when combined with organizational problems, is associated with burnout and may be positively related to turnover. Emotional exhaustion due to high levels of EL is expected to be a strong variable for predicting turnover [20,21].

As a modifier of the negative outcomes of EL, OC can play an important role in improving members’ behavior and levels of motivation and organizational commitment [14,15]. A cooperative and friendly OC among members may reduce negative factors such as emotional suppression and emotional disharmony or dissonance.

In the present study, we found a combined effect of OC and EL on turnover intention. When an OC is supportive or cooperative, even if EL is high, the risk of turnover intention decreases. In other words, an authentic OC in organizations may slow down the transformation of EL to turnover intention. This supports Cheng et al. [22] finding that a positive OC mediates the consequences of burnout and turnover intention. Having a harmonious and cooperative OC among employees in the workplace can mitigate the negative effects of EL and increase employees’ desire to stay in the organization. However, a negative or non-supportive OC amplifies the impact of EL on turnover intention. This supports the research finding that a friendly and supportive OC within an organization has a strong positive effect on job satisfaction [23]. Several studies have reported that a positive OC enhances job satisfaction and participation in decision-making processes [24]. As a result, a positive OC for both individuals and organizations may play a role in preventing the negative aspects of EL on turnover intention among firefighters.

Considering the current high unemployment rate in Korea, the issue of EL may be underestimated because of the advantage of employment stability. Recently, the Emotional Worker Protection Act was implemented, and the EL of firefighters has also reached its peak. To effectively manage the EL of firefighters in charge of emergency situations, a management program or relevant guidelines should be provided. There is no more effective way to manage EL than to prevent it.

Although previous studies on EL have focused on negative outcomes or mental health problems, such as job stress, job satisfaction, and burnout, this study was trying to address the combined effect of OC in the relationship between EL and turnover intention. Numerous studies have been conducted on mediating variables such as burnout, job stress, and emotional dissonance [25,26]. In the present study, it is confirmed that OC plays an important role in attenuating the intention to turnover. Thus, it is crucial to build a favorable OC for a firefighting organization to minimize the turnover intention of firefighters.

This study had a few limitations. First, it studied analyzed a nationwide sample of firefighters using data from the FRESH study. However, we cannot rule out the possibility of regional variations. Second, although this cross-sectional study found a significant relationship between EL and turnover intention, as well as combined effects of OC on this relationship, it is difficult to conclude a causal relationship. These limitations need to be considered when examining the causal relevance of OC through prospective cohort studies in the future.

Despite these limitations, this study is meaningful in that it identifies the combined effects of OC and EL on turnover intention. Because firefighters cannot avoid emotional exposure in work, they need to change the OC in their work environment. In conclusion, changing the OC through these improvements will help enhance health promotion in firefighters.

**Author contributions**

H.Y. and S.C. conceived the ideas; H.Y., D.J., and D.H. collected the data; H.Y., C.K., and D.H. analyzed the data; and S.C. led the writing.

**Approval of the research protocol**

This study was approved by the Institutional Review Board of Yonsei University for the protection of the rights and privacy of participants (Approval No. CR318335) and was conducted in full accordance with the World Medical Association Declaration of Helsinki.

**Informed consent**

All participants were given information about the study and were asked to sign a consent form before their participation. Registration and the registration no. of the study/trial: N/A. Animal Studies: N/A.

**Conflicts of interest**

The authors declared no conflicts of interest.

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