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The Relationship between Emotional Labor and Job Stress among Hospital Workers

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ABSTRACT

Background: We divided hospital workers into two groups according to whether one was an interpersonal service worker (ISW) or was not (non-ISW). We then explored differences between these groups in job stress and emotional labor type and investigated the mediating factors influencing their relationships.

Methods: Our participants included both ISW (n = 353) and non-ISW (n = 71) hospital workers. We administered the Korean Standard Occupational Stress Scale Short Form to measure job stress and the Emotional Labor Scale to indicate both emotional labor type and characteristics. We also administered the Beck Depression Inventory-II to indicate the mediating factors of depressive symptoms, the Beck Anxiety Inventory to indicate the mediating factors of anxiety, and the State Anger Subscale of the State-Trait Anger Expression inventory to indicate the mediating factors of anger.

Results: The ISW group showed more severe job stress than the non-ISW group over a significantly longer duration, with greater intensity, and with higher level of surface acting. The ISW group showed a significant positive correlation between surface acting and job stress and no significant correlation between deep acting and job stress. Parallel mediation analysis showed that for ISWs surface acting was directly related to increased job stress, indirectly related to depression, and unrelated to anxiety and anger.

Conclusion: The ISW group displayed more surface acting and job stress in its emotional labor than the non-ISW group. In the ISW group, surface acting during emotional labor was positively correlated with job stress. Depression partially mediated their relationship.

Keywords: Emotional Labor; Surface Acting; Job Stress; Depression

Disclosure

The authors have no potential conflicts of interest to disclose.

Author Contributions

Conceptualization: Sohn BK, Park SM, Hwang JY, Jung HY. Data curation: Sohn BK, Park SM, Hwang JY, Choi JS, Lee JY, Jung HY. Formal analysis: Sohn BK, Park SM, Park IJ, Jung HY. Methodology: Sohn BK, Park SM, Park IJ, Hwang JY, Choi JS, Lee JY, Jung HY. Writing - original draft: Sohn BK, Park SM. Writing - review & editing: Park IJ, Hwang JY, Choi JS, Lee JY, Jung HY.

INTRODUCTION

A kind service attitude toward patients is emphasized in hospitals. Many hospital workers who interact directly with patients may feel pressure in an atmosphere that leads them to perform emotional labor to be externally kind in providing service to patients. Emotional labor is the expression of emotions desired by the organization for which one works.¹ Emotional labor occurs when individuals face situations in which they must manage their emotions according to the display rules regulated by the organization.² Hochschild suggested that there are two emotional display methods: surface acting and deep acting.³ Surface acting indicates that workers regulate their emotional expressions by altering displayed feelings under the requirement of their employer. Workers who display surface acting suppress their negative emotions. In contrast, deep acting indicates that workers modify feelings to match the emotional expressions that are required by their employers. Through deep acting, workers manage their appropriate feelings within themselves.²⁻⁴ Morris and Feldman⁵ suggested dimensions of emotional labor including frequency of interactions, intensity of emotions, duration of interaction, variety of emotions required, and emotional dissonance. Usually, the emotional dissonance of emotional labor has been indicated as a factor that pushes workers into the job dissatisfaction and emotional exhaustion that mark burnout; however, the mechanisms are not clear.²

Job stress has been defined by the National Institute of Occupational Safety and Health as “the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker.”⁶ Job stress is usually related with workers' physical and mental health, and especially with depression and anxiety,⁷⁻⁹ and could influence their occupational functioning.

Emotional labor might develop into job stress, and both are known to be influenced by job characteristics and worker's individual character traits.^{6,10} The view of the National Institute of Occupational Safety and Health is that working conditions primarily influence job stress, while the individual factors of workers play additional roles in compounding this stress.⁶ Previous studies also suggested that job environment and individual style of emotional management were correlated to emotional labor.^{2,10}

Prior studies of emotional labor and job stress among hospital workers focused on specified occupations in hospitals, such as nurses, doctors, or healthcare professions.¹¹⁻¹³ A cross-sectional study of nurses and physicians showed that emotional dissonance and display of negative emotions predicted burnout well.¹² However, there are many types of occupations in hospitals. Many employees work as healthcare professionals, but others work, for example, as medical administrators and customer service workers. Even workers of the same type, such as nurses, may play various roles in the hospital. For example, some nurses work with patients in wards; others perform office work. Therefore, rather than focus on specific statuses within a hospital, we have found it appropriate for the purposes of this study to classify all hospital workers regardless of type into two categories: interpersonal service workers (ISW), who conduct face-to-face or voice-to-voice interactions with others, and non-interpersonal service workers (non-ISW).

In this study, we hypothesized that the ISW group would be more related to surface acting and job stress than the non-ISW group. Therefore, we tried to determine the psychological factors (e.g., such as depression, anxiety, and anger) that might mediate the relationship between emotional labor types and job stress.

METHODS

Participants

We distributed 700 questionnaires to various departments of a general hospital located in Seoul, Korea. We received 461 from hospital employees. Participants self-reported answers on the questionnaire and indicated whether the character of their respective jobs required direct interaction with patients or not.

Measures

The participants completed the Korean Standard Occupational Stress Scale Short Form (KOSS-SF)¹⁴ to measure job stress and the Emotional Labor Scale (ELS)⁴ to indicate emotional labor type and characteristics. They also performed the Beck Depression Inventory-II (BDI-II),¹⁵ Beck anxiety inventory (BAI),¹⁶ and the state anger subscale of the State-Trait Anger Expression Inventory (STAXI-S)¹⁷ to measure the expected individual factors of depression, anxiety, and anger, respectively.

The KOSS-SF¹⁴ is a self-questionnaire containing 24 items rated on a 4-point Likert scale and according to subscales that measure job demand, insufficient job control, interpersonal conflict, job insecurity, occupational system, lack of reward, and organizational climate. The raw scores were converted up to 100 based on calculations from Chang et al.¹⁴ Each subscale has its own contents. Job demand measures time pressure, increasing workload, insufficient rest, and multiple functioning. Insufficient job control measures noncreative work, skill underutilization, little or no decision-making, and low control. Interpersonal conflict measures inadequate supervisor support, inadequate coworker support, lack of emotional support. Job insecurity measures uncertainty and changes negative to one's job. Organizational system measures unfair organizational policy, unsatisfactory organizational support, inter-department conflict, and limitation of communication. Lack of reward measures unfair treatment, future ambiguity, and interruption of opportunity. Occupational climate measures collective culture, inconsistency of job order, authoritarian climate, and gender discrimination. Cronbach's alpha (α) for all items of the KOSS-SF was 0.83 for this study.

The ELS is a self-report questionnaire with a 5-point Likert scale used to measure the duration (1 item), intensity (2 items), and variety (3 items) of emotional labor as well as surface acting (3 items) and deep acting (3 items).¹⁰

The BDI-II is a 21-item self-report questionnaire with a 4-point Likert scale scored by summing each item.¹⁵ Higher BDI-II total scores represent more severe depression.¹⁸ Cronbach's α was 0.92 for this study.

The BAI is a 21-item self-report questionnaire with a 4-point Likert scale.¹⁶ Higher BAI scores represent more severe anxiety. Cronbach's α was 0.93 for this study.

STAXI-S is a subscale regarding state anger from the State-Trait Anger Expression inventory. Higher STAXI-S scores indicate current experience of more angry feelings and verbal or physical responses. It contains a 10-item questionnaire that is measured on a 4-point Likert scale.^{17,19} Cronbach's α was 0.95 for this study.

Statistical analysis

We conducted a comparison analysis between the ISW and non-ISW groups using cross-tabulation analysis and analyses of variance (ANOVAs) / analyses of covariance (ANCOVAs) for demographic variables and all scores from the KOSS, ELS, BDI, BAI, and STAXI-S.

For the ISW group, Pearson correlations and a parallel mediation analysis²⁰ (model 4 from Hayes' mediation model) were conducted to examine the relationships among emotional labor, job stress, and psychological variables (depression, anxiety, and anger). Bootstrapping with 5,000 sampling was applied to correlation and mediation analyses. SPSS 23.0 (IBM Corp., New York, NY, USA) was used for the statistical analysis in this study.

Ethics statement

The Institutional Review Board of the SMG-SNU Boramae Medical Center approved this study protocol (IRB No. 26-2013-54). Written informed consent was obtained from each participant.

RESULTS

Comparisons between ISW and non-ISW

Of the total participants ($n = 461$), 347 (75.27%) were women, the mean age was 32.27 ± 8.24 , the mean years of education were 15.16 ± 5.05 , and the mean years of career were 6.69 ± 7.33 . The mean duration of emotional labor was 325.71 ± 205.72 min/day. We divided enrolled hospital employees into direct patient service workers (ISW; $n = 353$; 76.57%) and non-patient service workers (non-ISW; $n = 71$; 15.41%) based on the response to the binominal item "Does your job involve interpersonal service with patients?" Thirty-seven non-responders on that item were excluded from group analysis.

The ISW group consists of the following: doctors ($n = 30$; 8.50%), nurses ($n = 185$; 52.41%), pharmacists ($n = 9$; 2.55%), health service officials ($n = 26$; 7.37%), administrative officials ($n = 16$; 4.53%), and call center workers ($n = 18$; 5.10). The non-ISW group consists of the following: doctors ($n = 4$; 5.63%), nurses ($n = 16$; 22.54%), pharmacists ($n = 4$; 5.63%), health service officials ($n = 5$; 7.04%), and administrative officials ($n = 24$; 33.80%).

Table 1 shows statistical values of group differences between ISW and non-ISW groups for demographic and descriptive data in detail. The proportion according to sex was different between groups and the ISW group was significantly younger, less educated, and had shorter years of career than non-ISW group. We select the sex and year of career as covariates for further analysis since the age, year of education, and year of career were highly correlated.

ANOVAs for the KOSS-SF were conducted, and the ISW group showed significantly higher total score, job demand, insufficient job control, and lack of reward items for the KOSS-SF than the non-ISW group ($F = 4.37$, $P = 0.037$; $F = 19.72$, $P < 0.001$; $F = 4.03$, $P = 0.045$; $F = 9.21$, $P = 0.003$; respectively). After that, ANCOVAs adjusted for the effects of sex and the year of career were conducted. The ISW group still showed higher total score, job demand, and lack of reward items for the KOSS-SF than the non-ISW group ($F = 6.09$, $P = 0.014$; $F = 19.05$, $P < 0.001$; $F = 12.68$, $P < 0.001$; respectively), while the group difference for insufficient job control was found to be not significant.

Table 1. Demographic and descriptive data

Variables	No. of female or mean (SD)		χ^2 or <i>F</i>	<i>P</i>	<i>F</i> ^a	<i>P</i> ^a
	ISW (n = 353)	Non-ISW (n = 71)				
Sex, female	286	65	140.02	< 0.001		
Age, yr	31.21 (7.51)	36.48 (9.87)	25.94	< 0.001	NA	NA
Education, yr	14.72 (5.16)	16.92 (4.35)	5.52	0.020	NA	NA
Career, yr	5.69 (6.05)	10.48 (10.04)	27.85	< 0.001	NA	NA
KOSS-SF						
Total	51.18 (12.24)	47.89 (10.82)	4.37	0.037	6.09	0.014
Job demand	61.07 (19.64)	48.06 (20.77)	19.72	< 0.001	19.05	< 0.001
Insufficient job control	62.73 (19.64)	58.01 (19.85)	4.03	0.045	2.54	0.112
Interpersonal conflict	49.71 (20.47)	50.59 (19.43)	0.16	0.686	0.52	0.472
Job insecurity	28.01 (25.72)	27.46 (25.75)	0.01	0.965	0.16	0.692
Occupational system	67.06 (17.54)	66.19 (15.03)	0.08	0.780	0.71	0.400
Lack of reward	66.48 (21.32)	57.86 (17.83)	9.21	0.003	12.68	< 0.001
Organization climate	23.81 (18.53)	26.49 (19.95)	1.42	0.234	0.36	0.548
Emotional labor						
Duration, min/day	368.99 (178.92)	93.08 (180.40)	124.22	< 0.001	NA	NA
Intensity	2.00 (0.90)	1.60 (0.66)	14.79	< 0.001	NA	NA
Variety	2.26 (0.86)	2.13 (0.77)	1.19	0.276	NA	NA
SA	2.94 (1.04)	2.38 (0.81)	13.76	< 0.001	22.30	< 0.001
DA	2.51 (0.85)	2.52 (0.81)	0.00	0.998	0.11	0.745
BDI-II	14.27 (10.02)	11.32 (9.25)	5.23	0.023	4.01	0.046
BAI	12.01 (9.75)	10.38 (9.55)	1.63	0.203	0.17	0.679
STAXI-S	14.64 (5.71)	12.87 (4.47)	3.79	0.052	3.15	0.077

ISW = interpersonal service workers, non-ISW = non-interpersonal service workers, KOSS-SF = The Korean Standard Occupational Stress Scale Short Form, SA = the Surface Acting of the Emotional Labor Scale, DA = the Deep Acting of the Emotional Labor Scale, BDI-II = the Beck Depression Inventory-II, BAI = the Beck Anxiety Inventory, STAXI-S = State-Trait Anger Expression Inventory-State.

^aThe value which sex and years of career were adjusted.

The ISW group showed significantly longer duration and greater intensity in the ELS scores than the non-ISW group ($F = 124.22$, $P < 0.001$; and $F = 14.79$, $P < 0.001$; respectively). Variety did not exhibit significant differences between groups. The ISW group showed higher levels of surface acting than the non-ISW group both before and after adjusting covariates ($F = 13.76$, $P < 0.001$; and $F = 22.30$, $P < 0.001$; respectively). The level of deep acting did not differ for either group independently of covariates.

The BDI-II score was also significantly higher for the ISW group than for the non-ISW group as shown in the results of an ANOVA and an ANCOVA ($F = 5.23$, $P = 0.023$; and $F = 4.01$, $P = 0.046$; respectively). The BAI and STAXI-S scores did not show significant differences between the groups.

Relationships among variables in the ISW group

Table 2 shows the correlations among variables in the ISW group. In that correlation analysis, surface acting showed significant positive correlation with total KOSS-SF score ($r = 2.99$, $P < 0.001$), whereas deep acting was not significantly correlated with total KOSS-SF score. Thus, we conducted a parallel mediation model predicting total KOSS-SF score with surface acting as an independent variable (**Table 3** and **Fig. 1**) but did not conduct the model using deep acting as an independent variable. The scores on the BDI-II (as a proxy for depression), BAI (as a proxy for anxiety), and STAXI-S (as a proxy for anger) were entered into the mediation model as parallel mediators. As a result, the direct effect of surface acting on total KOSS-SF scores was significant ($\beta = 1.81$, $P = 0.001$). In addition, the indirect effect of surface acting on total KOSS-SF scores via the scores on the BDI-II was significant ($\beta = 1.38$; Boot CI, 0.78–2.21; $Z = 3.98$; $P < 0.001$). The mediation effects were not significant for either BAI or STAXI-S scores.

Table 2. Correlation coefficients among variables in ISW

Variables	KOSS-SF_t	EL_dur	EL_int	EL_var	EL_SA	EL_DA	BDI-II	BAI	STAXI-S
KOSS-SF_t	1.00								
EL_dur	0.15	1.00							
EL_int	0.15	0.10	1.00						
EL_var	-0.19	0.05	0.58	1.00					
EL_SA	0.30	0.11	0.08	-0.09	1.00				
EL_DA	-0.12	-0.03	0.06	0.18	0.26	1.00			
BDI-II	0.53	0.14	0.18	-0.06	0.27	-0.04	1.00		
BAI	0.42	0.21	0.24	0.05	0.27	0.11	0.72	1.00	
STAXI-S	0.39	0.18	0.39	0.15	0.27	0.04	0.61	0.66	1.00

ISW = interpersonal service workers, KOSS-SF_t = the total score of Korean Standard Occupational Stress Scale Short Form, EL_dur = the duration of the Emotional Labor Scale, EL_int = the intensity of the Emotional Labor Scale, EL_var = the variety of the Emotional Labor Scale, EL_SA = the Surface Acting of the Emotional Labor Scale, EL_DA = the Deep Acting of the Emotional Labor Scale, BDI-II = the Beck Depression Inventory-II, BAI = the Beck Anxiety Inventory, STAXI-S = the State-Trait Anger Expression Inventory-State.

Table 3. Total and indirect effects of surface acting on KOSS-SF via mediators in ISW

Independent variables	Mediator	β	Boot SE	Boot LLCI	Boot ULCI	P	P ^a
Total		3.48	0.61	2.28	4.68	< 0.001	0.014
EL_SA	BDI-II	1.38	0.36	0.78	2.21	< 0.001 ^b	< 0.001 ^b
	BAI	0.03	0.24	-0.42	0.53	0.892 ^b	0.664 ^b
	STAXI-S	0.26	0.26	-0.16	0.87	0.204 ^b	0.136 ^b

ISW = interpersonal service workers, KOSS-SF = The Korean Standard Occupational Stress Scale Short Form, EL_SA = the Surface Acting of the Emotional Labor Scale, β = coefficients, Boot = bootstrapping, SE = standard Error, LLCI = lower limit confidential interval, ULCI = upper limit confidential interval, BDI-II = the Beck Depression Inventory II, BAI = the Beck Anxiety Inventory, STAXI-S = the State-Trait Anger Expression Inventory-State.

^aThe value which sex, duration of emotional labor, intensity of emotional labor, and variety of emotional labor were adjusted; ^bThe value from the Sobel test.

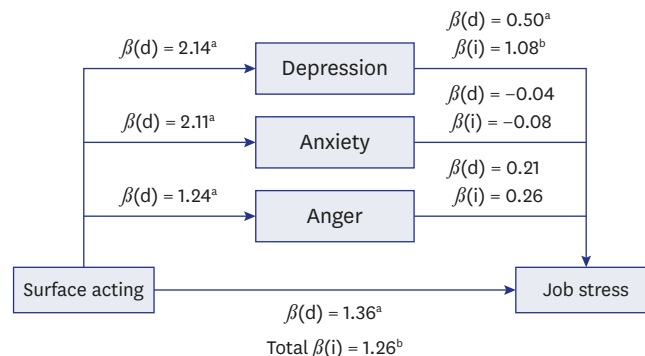


Fig. 1. Diagram of parallel mediation analyses for the effect of surface acting on job stress in ISW.

ISW = interpersonal service workers, Surface Acting = the Surface Acting scores of Emotional Labor Scale, Job Stress = the scores of The Korean Standard Occupational Stress Scale Short Form, Depression = the scores of Beck Depression Inventory II, anxiety = the scores of Beck Anxiety Inventory, anger = the scores of State-Trait Anger Expression Inventory-state, $\beta(d)$ = coefficients for the direct effect of the independent variables, $\beta(i)$ = coefficients for the indirect effect of the independent variable via a mediator. total $\beta(i)$ = coefficients for the indirect effect of the independent variable via all mediators. The effects of sex and the duration, intensity, and variety of emotional labor were adjusted throughout the model.

^aThe direct effect with $P < 0.05$; ^bThe indirect effect within significant confidence interval.

Next, we tested the above mediation model with covariates. Sex and the duration, intensity, and variety of emotional labor were entered into the model as covariates since they have significant relationship with mediators and total KOSS-SF scores. ANOVAs for sex showed that the respective scores for KOSS-SF, BDI-II, BAI, and STAXI-S were higher in females than in males in the ISW group ($F = 14.17, P < 0.001$; $F = 17.18, P < 0.001$; $F = 17.98, P < 0.001$; and $F = 4.01, P = 0.046$). The duration and intensity of emotional labor were positively correlated with the respective total scores for KOSS-SF, BDI-II, BAI, and STAXI-S, whereas the variety of emotional labor was negatively correlated with the total score for KOSS-SF ($P_s < 0.05$, see **Table 2** for detail). Though years of career was different for the ISW and non-ISW groups, we

did not include this variable in our covariates because there was no significant correlation between years of career and the respective total scores for KOSS-SF, BDI-II, BAI, nor STAX-S in the ISW group. As a result of the mediation model with covariates, the direct effect of surface acting on total KOSS-SF scores and the indirect effect of surface acting on total KOSS-SF scores via the scores on the BDI-II were still significant ($\beta = 1.36$; $P = 0.014$; $\beta = 1.07$; Boot CI, 0.48–1.87; $Z = 3.45$; $P < 0.001$). The mediation effects were not significant for either BAI or STAXI-S scores. In other words, depression partially mediated the ways that surface acting when performing emotional labor affected job stress independently of the effects of sex and physical factors of emotional labor (duration, intensity, and variety; see **Table 3** and **Fig. 1**).

DISCUSSION

This study demonstrated that hospital workers who provided interpersonal services for patients regardless of occupation engaged in greater levels of emotional labor involving surface acting and showed greater levels of job stress, depression, and anger than workers who did not interact with patients. In the ISW group, surface acting was directly related to increased job stress, and depression was a partial mediator between surface acting and job stress, whereas anxiety and anger were not.

In our study, BDI-II score showed the greatest difference among scales for depression, anxiety, and anger between the two groups. We supposed that the depressive symptoms measured by BDI-II could be better indicators of the representative mood-related status among ISW group members than anxiety or anger. Therefore, our results are showing that depression has a significant role as a mediator in the ISW group. Prior studies also reported that depression did the key role of job stress or emotional labor. One previous study of nurses reported that 38% of the 441 nurses surveyed had depressive symptoms and indicated that both surface acting during emotional labor and job-related stress (particularly concerning job insecurity and lack of rewards) were significantly related depressive symptoms.¹² A review article also suggested that work-related stressful experiences contribute to depression.²¹ Another study, which surveyed employees of companies reported that job stress (a subscale of job insecurity and occupational climate) related to depression. Job demand and lack of rewards were demonstrated to be significantly related to depression in males.²² These results are similar to our findings concerning the relationship between emotional labor and depression or between emotional labor and job stress. It might be that the participants in these prior studies engaged in interpersonal work with patients. In this study, the ISW group also showed higher depression score than the non-ISW group.

Emotional expressions according to organizational needs such as surface acting could incur feelings of unpleasantness and contribute to the development of job stress and burnout.² Some researchers suggested that emotional stress caused by inhibited expression could evolve an arousal status related with the endocrine and autonomic nervous systems.² Long-term emotional inhibition could be related to overworking of the cardiovascular and nervous systems, decreased immune function, and cancer.^{2,23,24} Previous studies suggested that emotional labor is also related to burnout. Emotional dissonance was related to emotional exhaustion,^{25,26} and surface acting predicted depersonalization.¹⁰ Deep acting was positively associated with personal accomplishment.¹⁰ Concerning job satisfaction, surface acting during emotional labor was reported to cause negative effects.^{25,26} The finding relating deep acting to job satisfaction negatively or positively was controversial.^{2,3} Generally, it seemed

that emotional dissonance, which requires emotional regulation, might be negatively related with job satisfaction.² The ISW group showed higher total KOSS-SF scores measuring job stress, especially for the subscales of job demand and lack of reward, than the non-ISW group. The KOSS-SF is useful toward understanding one's job stress factor through its subscales. The job demand subscale generally reflects feeling of job burden, and lack of reward reflects a feeling of insufficient reward from organization.¹⁴

Therefore, hospital organizations must consider hospital workers' emotional labor types and provide programs for improving surface acting or for converting surface acting to deep acting, especially among workers in the ISW group. Hospital organizations must make an effort to improve meaningful subscales of job stress based on our study such as job demand and lack of reward and depression. For example, flexible working hours, job burden distribution, an appropriate reaction manual, employee protection from dangerous patients, economic or non-economic reward to workers, and control of hospital workers' depression could play positive roles in relieving job stress. Regular mental health screening and frequent chances for psychiatric consultation for hospital workers will be helpful in preventing or intervening early in depression.

There are four particular limitations to this study. First, though we made an effort to include a diversity of jobs within the hospital, nurses constituted nearly half of all participants. We considered service roles rather than individual job characteristics, and the higher proportion of nurses in the ISW group and of administrative officials in the non-ISW group could have influenced our results. Also, as every hospital is organized and managed differently, future studies should draw participants from multiple hospitals. Second, while the KOSS-SF is helpful to understand one's job stress factor rather than general psychosocial stress by job, it might be difficult to use total KOSS-SF scores to identify participants' general mental health according to occupation. Third, we did not consider whether any of our participants had been diagnosed with past or current psychiatric disorders. We only recruited participants who were performing their hospital jobs at the time that our research was conducted and so did not screen for psychiatric problems or other mental health histories and concerns. Doing so to determine who did and who did not have diagnosed psychiatric conditions would have been helpful in generalizing our results further. Fourth, the participants whom we drew from one particular general hospital were not representative of all workers from various environments by hospital volume or hospital characteristic (for example, public or private hospital or private clinic).

This study makes the contribution of suggesting that hospital workers who provide interpersonal services for patients experience job stress due to surface acting during emotional labor and that depression could potentiate this relationship. Based on these results, hospital organizations must lead policy developments that reduce the demand for surface acting during emotional labor, job stress, and depression in order to protect the mental health of hospital workers.

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