

RESEARCH ARTICLE

Nurses' organizational communication satisfaction, emotional labor, and prosocial service behavior: A cross-sectional study

Youngsoo Kim MSN¹ | Sun Joo Jang PhD² 

¹Graduate School of Advanced Nursing Practice, Eulji University, Daejeon, Korea

²Red Cross College of Nursing, Chung-Ang University, Seoul, Korea

Correspondence

Sun Joo Jang, Red Cross College of Nursing, Chung-Ang University, 84 Heukseok-ro, Dongjak-Gu, Seoul, 06911 Korea.

Email: icedcoffee@hanmail.net; icedcoffee@cau.ac.kr

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Abstract

In this study, we investigated nurses' organizational communication satisfaction and emotional labor in an attempt to identify the factors that influence nurses' prosocial service behavior in Korea. A cross-sectional study was conducted on 145 nurses at two Korean tertiary hospitals in 2017. Most participants (89%) were female, and the mean age was 28.45 ± 5.50 years; data analysis was mainly based on a multiple regression. It was consequently found that nurses' organizational communication satisfaction and emotional labor positively affected their prosocial service behavior. The potential benefits of emotional labor were also explored, and these variables were determined to explain 41.1% of the variance in prosocial service behavior. These findings provide evidence that organizational communication satisfaction and emotional labor in nurses can have significant effects on their prosocial service behavior.

KEYWORDS

emotional labor, Korea, nurse, organizational communication satisfaction, prosocial service behavior

1 | INTRODUCTION

Nurses' prosocial service behavior, including caring behaviors, is considered an important element of health-care administration and business (Graber, 2009). Several researchers have examined prosocial service behavior in nursing, including "prosocialness" and "prosociality", in attempts to more comprehensively understand nursing outcomes (Biagioli, Prandi, Giuliani, Nyatanga, & Fida, 2016; Feather, McGillis Hall, Trbovich, & Baker, 2018).

Recent studies have investigated nurses' organizational communication satisfaction and emotional labor. Most of these previous studies have reported that emotional labor negatively affects nurses' job attitudes (e.g. turnover intention, job satisfaction, organizational commitment, and burnout) and psychological well-being (Cheng, Bartram, Karimi, & Leggat, 2013; Hulsheger & Schewe, 2011; Vermaak, Görgens-Ekermans, & Nieuwenhuize, 2017), while organizational communication satisfaction positively affects this variable (Je & Han, 2017; Kim & Lee, 2017). However, little is known about how emotional labor positively affects job-related performance in the nursing profession.

1.1 | Literature review

As medical organizations, hospitals differ from other common business entities in terms of their varying duties, the fact that both administrative and medical staff are involved, and because they have a quite complicated organizational structure. In addition, their labor-intensive medical services are provided by highly-professional human resources (Kwon et al., 2011). Consequently, variety and complexity are inherent in hospitals, and thus, smooth information flow and accurate communication among departments and members are of immense importance (Kim et al., 2012). Nurses communicate with members of various occupations, including patients, and they provide patients with face-to-face service. Throughout the process of medical treatment – from outpatient care centers and emergency rooms where patients are first treated, to wards, operation rooms, and intensive care units – nurses typically have more interaction with patients than any other health-care provider. Thus, nurses are poised to assume key roles in patient care at hospitals (Needleman et al., 2011; Salmond & Echevarria, 2017). Accordingly, it is necessary to promote clear and smooth communication between nurses, patients, and other health-care providers (Jung, Park, & Lee, 2012; Kim et al., 2012; Park, 2003).

In medical centers, which can be in fierce competition, in addition to the provision of high-quality medical care, personal services, such as kindness, are largely emphasized as part of medical-service, business-management strategies. In fact, in addition to performing basic mental and physical labor, clinical nurses are expected to practice emotional labor while hiding their emotions (Back, Hyun, & Chang, 2017). Emotional labor in the nursing profession can be defined as nurses' showing emotions that can convey empathetic concern for patients (Karimi, Leggat, Donohua, Farrell, & Couper, 2014). In many medical centers, nurses use "forced smiles" at work (Kim et al., 2012). There is considerable research evidence showing the negative consequences that emotional labor has on quality of care (Cheng et al., 2013), emotional exhaustion and depersonalization (Karimi et al., 2014), job satisfaction (Kim & Kim, 2017), organizational commitment (Hong & Kwon, 2015), and ultimately, turnover intention (Lee & Kim, 2016). However, Badolamenti, Sili, Caruso, and Fida (2017) recently proposed that we should regard emotional labor as nursing competence, as it also has positive effects on quality of care, performance, and patient satisfaction. Therefore, nurses who play a key role in providing diverse services to patients in intricate clinical settings (Salmond & Echevarria, 2017) should perform their emotional labor properly and with great care, as it could positively affect patient outcomes.

Prosocial service behavior relates to instances when service providers show helpful behavior toward other individuals (Bettencourt & Brown, 1997), and also to workplace behavior intended to enhance the in-role or extra-role tasks of other employees or organizations, which in turn improves organizational functioning (Feather et al., 2018). Such behavior is well known in business administration and the hospitality industry, but is a relatively new concept in nursing. In addition to the basic roles and services involved, voluntary services that are not specified should also be provided in order to ensure high-level customer satisfaction. This behavior forms part of the organizational role of service providers; accordingly, considerable emphasis is placed on prosocial service behavior that includes both specified and non-specified role behaviors (Ackfeldt & Malhotra, 2013; Eren, Burke, Astakhova, Koyuncu, & Kaygisiz, 2014). Employees who engage in service encounters perform such roles and services at their discretion; the behaviors of these internal employees not only decide the quality of the service products but also affect customer satisfaction, business performance, and organizational growth (Boshoff & Gray, 2004); therefore, prosocial service behavior is vital (Baik & Yom, 2012).

Nurses significantly affect patients' level of satisfaction through their provision of general medical service (Choi, Ji, & Park, 2012). People's preferences are constantly changing, and organizations should provide products and services that meet customers' needs if they wish to sustain their businesses (Kim & Kim, 2016). According to one integrative review (Feather et al., 2018), nurses' prosocial behaviors can enhance nursing performance and increase quality of care. In nursing, prosocial behaviors are generically implemented through processes, such as organizational service behaviors, adaptive behaviors, and organizational citizenship

behaviors (Feather et al., 2018), which are being increasingly emphasized in service.

1.2 | Study aim

The aim of this study was to investigate the extent to which organizational communication satisfaction and emotional labor influence Korean nurses' prosocial service behavior.

2 | METHODS

2.1 | Design and setting

A cross-sectional study was conducted in 2017 at two tertiary hospitals in Korea.

2.2 | Participants

For the participants of this study, the inclusion criteria were nurses: (i) with at least 1 year of working experience, as 1 year is regarded as the transition period for new nurses (Newhouse, Hoffman, Suflita, & Hairston, 2007; Rush, Adamack, Gordon, Lilly, & Janke, 2013); and (ii) who understood the purpose of the study and agreed to voluntarily participate. The sample size was calculated using G*Power 3.1.9.2. For a multiple regression analysis including 13 test predictors, based on an alpha of .05, an effect size of .15, and a power of .80, it was determined that at least 131 participants were required. Therefore, expecting a 20% attrition rate, we chose to include 160 nurses.

2.3 | Data collection

Data were collected between July 1 and July 30, 2017. A researcher gained prior consent from the nursing departments at the hospitals via email, and then visited the department in person to explain the purpose and method of this research. Questionnaires were then distributed to the participants, who were given explanations regarding the purpose, methods, and significance of the study by the department heads and the first author. After completing the questionnaires, the nurses placed it inside an enclosed, unlabeled envelope; sealed the envelope; and submitted it at their convenience. If they did not wish to participate, they submitted the uncompleted questionnaire in the same sealed envelope. It was made clear that the collected data, with personal information excluded, would only be used for this research, and that respondents could cease their participation at any time without penalty. In total, 160 copies were collected (100% return rate), and of these, 15 were uncompleted. Thus, 145 questionnaires (91.6% response rate) were included in the final analyses.

2.4 | Ethical considerations

This study was conducted with the approval of the institutional review board of the institution with which the authors were affiliated (approval no. EU17-33), and was, therefore, performed in accordance with the ethical standards of the Declaration of Helsinki (as revised in

Brazil in 2013). Written informed consent was obtained from all of the participants.

2.5 | Measures

2.5.1 | Organizational communication satisfaction

Organizational communication satisfaction is an employee's satisfaction with the communication regarding various aspects within one's organization (Crino & White, 1981). The organizational communication satisfaction tool used in this study was developed by Downs and Hazen (1977), and was later validated (Crino & White, 1981; Zwijze-Koning & de Jong, 2007). It was then modified, translated, and validated for Korean hospital settings by Park (2003). Through confirmatory factor analysis (CFA), factor loadings were determined to be $>.50$. This instrument has been widely used to measure organizational communication satisfaction in the clinical nursing field (Je & Han, 2017). For this study, permission was obtained to use the Korean version. This tool consists of 24 items, and its eight subdomains are: (i) communication with supervisor; (ii) horizontal informal communication; (iii) communication with subordinates; (iv) communication climate; (v) media quality; (vi) organizational perspective; (vii) personal feedback; and (viii) organizational integration. Responses were provided using a five point Likert scale (1 = "not at all" to 5 = "very much"). Higher scores indicated higher levels of organizational communication satisfaction. In Downs and Hazen's (1977) study, Cronbach's alpha was .94; in Park's (2003) study, Cronbach's alpha was .80; in the present study, Cronbach's alpha was .86.

2.5.2 | Emotional labor

There are many scales measuring emotional labor, but most have been developed for hospitality industry employees. Considering the diverse disciplines and occupations in question, the emotions to be managed vary, and have particular nuances; consequently, rules regarding occupational feeling differ (Hunter & Smith, 2007). Especially in the nursing profession, nurses experience much higher levels of autonomy in relation to their emotional display. Further, as a result of the nature of health-care work, they also encounter very different settings (urgent, critical, and distressing situations). Therefore, in this study we chose to use a tool developed by Hong (2016) to measure Korean nurses' emotional labor; permission to use this tool was obtained. This tool consists of 16 items, and the three subdomains comprise: (i) emotional modulation efforts in profession; for example, "I try to show patients heartfelt kindness"; (ii) patient-focused emotional suppression; for example, "I experience cases where patients project negative emotions regarding other medical staff or departments onto me"; and (iii) emotional pretense by norms; for example, "I consciously control the facial expressions, attitudes, and tone of voice I use with patients". This tool was validated by CFA, and factor loadings ranged from .49 to .80. Responses were made using a five point Likert scale (1 = "not at all" to 5 = "very much"), with higher scores indicating higher levels of emotional labor. In Hong (2016)'s study, Cronbach's alpha equaled .81. In the present study, Cronbach's alpha was also .81.

2.5.3 | Prosocial service behavior

To measure prosocial service behavior, a tool developed by Bettencourt and Brown (1997) and translated into Korean by Song (2011) was used. At the time of development, the factor loadings of the 15 items of the three subdomains (extra-role service, role-prescribed service, and cooperation) ranged from .43 to .87. The Korean version was also validated using CFA. We received permission to use this tool from Bettencourt and Brown. This instrument remains widely used for measuring prosocial service behavior in diverse settings (Choi, Cho, & Lee, 2011; Kim & Lee, 2017). Its subdomains comprise: (i) extra-role service: the discretion-related behavior of employees to provide customers with further services and improve customer satisfaction; for example, "voluntarily assist customers, even if it means going beyond job requirements"; (ii) role-prescribed service: performing a standardized role, such as by following implicit norms and job descriptions in an organization; for example, "perform all those tasks for customers that are required"; and (iii) cooperation: collaborating with other employees; for example, "willingly help others who have work related problems". Responses were given using a five point Likert scale (1 = "not at all" to 5 = "very much"). Higher scores indicated higher levels of prosocial service behavior. For the Korean version, Cronbach's alpha was .80; in the present study, Cronbach's alpha was .83.

2.6 | Data analyses

Statistical analyses were conducted on the collected data using SPSS 24.0. Participants' general characteristics and levels of organizational communication satisfaction, emotional labor, and prosocial service behavior were analyzed using descriptive statistics. To measure the internal consistency of each tool, the Cronbach's alpha coefficient was calculated. Participants' organizational communication satisfaction, emotional labor, and prosocial service behavior in relation to their general characteristics were analyzed using *t*-tests and analyses of variance. For post-hoc comparisons, a Scheffé's test was conducted. When no significant differences between groups were found, results were re-verified using a Duncan post-hoc analysis. The correlations among participants' organizational communication satisfaction, emotional labor, and prosocial service behavior were analyzed using Pearson's correlation coefficient. Meanwhile, the effects of participants' general characteristics, organizational communication satisfaction, and emotional labor on their prosocial service behavior were examined using multiple regression analysis.

3 | RESULTS

3.1 | Participants' general characteristics

Participants' general characteristics are shown in Table 1. Most participants (89%) were female. The mean age was 28.45 (standard error: .46) years. Most (73.1%) were college graduates, and 82.8% were single. Mean working period as nurses was 5.58 (standard error: .46) years; 43.4% worked in wards, 86.2% were staff nurses, and 85.5% were shift workers.

TABLE 1 Participants' sociodemographic characteristics and prosocial service behavior ($n = 145$)

Characteristics	Categories	N (%)	Prosocial service behavior		
			Mean \pm SD	t/F	P-value
Sex	Male	16 (11.0)	3.63 \pm .43	.35	.724
	Female	129 (89.0)	3.59 \pm .37		
Age (years) ^a	<30 (a)	103 (71.0)	3.58 \pm .36	4.47	.013* (a, b < c)
	30–39 (b)	34 (23.5)	3.55 \pm .38		
	\geq 40 (c)	8 (5.5)	3.97 \pm .38		
Education	3 years' college	20 (13.8)	3.62 \pm .29	.70	.500
	Bachelor	106 (73.1)	3.57 \pm .39		
	Master	19 (13.1)	3.68 \pm .37		
Religious	Yes	86 (59.3)	3.56 \pm .36	1.44	.153
	No	59 (40.7)	3.65 \pm .39		
Marital status	Single	120 (82.8)	3.58 \pm .36	.91	.342
	Married	25 (17.2)	3.66 \pm .46		
Length of career at current hospital (years)	<5	87 (60.0)	3.57 \pm .37	1.35	.263
	5–10	29 (20.0)	3.55 \pm .39		
	\geq 10	29 (20.0)	3.69 \pm .38		
Length of career at current department (years)	<5	109 (75.1)	3.56 \pm .38	2.20	.114
	5–10	22 (15.2)	3.74 \pm .31		
	\geq 10	14 (9.7)	3.61 \pm .43		
Working area	ER	13 (9.0)	3.55 \pm .26	.50	.778
	ICU	43 (29.7)	3.64 \pm .36		
	OR	10 (6.9)	3.49 \pm .21		
	Ward	63 (43.4)	3.59 \pm .40		
	OPD	6 (4.1)	3.88 \pm .41		
	Other	10 (6.9)	3.42 \pm .43		
Position	Staff (a)	125 (86.2)	3.58 \pm .38	2.26	.108
	Charge (b)	15 (10.3)	3.62 \pm .29		
	Head (c)	5 (3.5)	3.93 \pm .31		
Working pattern	Shifts	124 (85.5)	3.58 \pm .36	1.09	.277
	Fixed	21 (14.5)	3.68 \pm .44		
Salary (10000 won)	Low (<2,500)	83 (57.2)	3.52 \pm .37	2.87	.005**
	High (>2,500)	62 (42.8)	3.69 \pm .36		

* $P < .05$; ** $P < .001$; ER = emergency room; ICU = intensive care unit; OPD = outpatient department; OR = operating room; SD = standard deviation. a = age <30; b = age 30~39; c = age >40.

3.2 | Nurses' organizational communication satisfaction, emotional labor, and prosocial service behavior

Nurses' organizational communication satisfaction, emotional labor, and prosocial service behavior levels are shown in Tables 1 and 2. It was found that organizational perspective, personal feedback, and organizational integration subdomain scores were lower than the overall average. However, communication with supervisor, horizontal informal communication, communication with subordinates, communication climate, and media quality were higher than the overall average.

3.3 | Correlations among nurses' organizational communication satisfaction, emotional labor, and prosocial service behavior

Organizational communication satisfaction ($r = .524$, $P < .001$) and emotional labor ($r = .578$, $P < .001$) were found to be significantly

positively correlated with prosocial service behavior (Table 3). Among organizational communication satisfaction and emotional labor, emotional modulation efforts ($r = .433$, $P < .001$) and patient-focused emotional suppression ($r = .309$, $P < .001$) were determined to be positively correlated with organizational communication satisfaction, while emotional pretense by norm ($r = .125$, $P = .134$) was not significantly correlated. Specifically, all eight subdomains of organizational communication satisfaction and all three subdomains of emotional labor were significantly positively correlated with prosocial service behavior.

3.4 | Effects of nurses' organizational communication satisfaction and emotional labor on their prosocial service behavior

A multiple regression analysis was conducted to identify factors affecting nurses' prosocial service behavior. Tolerance and variance influence factors (VIF) were evaluated to verify the multi-collinearity

TABLE 2 Subdomain scores for organizational communication, emotional labor, and prosocial service behavior ($n = 145$)

Variables	Subdomain	Mean \pm SD
Organizational communication satisfaction	Communication with supervisor	3.80 \pm .51
	Horizontal informal communication	3.55 \pm .46
	Communication with subordinates	3.47 \pm .56
	Communication climate	3.29 \pm .57
	Media quality	3.22 \pm .59
	Organizational perspective	2.94 \pm .73
	Personal feedback	2.82 \pm .55
	Organizational integration	2.47 \pm .65
	Total	3.20 \pm .37
Emotional labor	Emotional modulation efforts in profession	3.75 \pm .45
	Emotional pretense by norms	3.24 \pm .52
	Patient-focused emotional suppression	3.07 \pm .70
	Total	3.41 \pm .38
Prosocial service behavior	Cooperation	3.91 \pm .49
	Role-prescribed customer service	3.72 \pm .47
	Extra-role customer service	3.15 \pm .54
	Total	3.59 \pm .38

SD = standard deviation.

of the independent variables. The tolerance was .70–.80 (in general, lower than .10). The VIF was 1.26–1.44; under 10.00, in general. It was also verified that there was no multi-collinearity between independent variables. Regarding the suitability of the regression model, its normality and homoscedasticity were examined using residual analysis. Using the Kolmogorov–Smirnov test, ($Z = 0.63$, $P = .817$), the normality assumption was determined to be met. Further, Breusch–Pagan test results showed that the homoscedasticity of the variance assumption was also met; therefore, the goodness-of-fit of this regression model was supported. According to the analysis results, organizational communication satisfaction and emotional labor significantly affected participants' prosocial service behavior (Table 4).

4 | DISCUSSION

In this study, we assessed the effects of organizational communication satisfaction and emotional labor on prosocial service behavior among nurses. While most existing studies report a prominent negative effect of emotional labor, we verified that as emotional labor increases, prosocial service behavior increases accordingly. Further, an appropriate level of emotional labor has positive effects on relationships with patients, and enhances patients' trust in nurses' motivations and behaviors (Hong, 2016). If professional nurses view emotional labor as an opportunity to express their positive emotions and feel a sense of accomplishment, rather than merely as a factor that obstructs their nursing service, positive psychological reactions might be induced, even if they must act according to their organization's specified norms concerning emotional expression (Hong & Kwon, 2015). According to the majority of existing research, emotional labor negatively affects nurses' job attitudes and psychological well-being (Cheng et al., 2013;

Hulsheger & Schewe, 2011; Vermaak et al., 2017). However, considering previous research findings indicating that emotional labor has no adverse influence on the quality of nursing care (Lee & Kim, 2016) and its positive effects on quality of care, performance, and patient satisfaction (Badolamenti et al., 2017), we recommend conceptualizing emotional labor as a neutral influence.

The emotional labor scores of the nurses in this study were consistent with those of past studies (Back, Hyun, & Chang, 2017; Back, Hyun, Jeung, & Chang, 2017). Among the subdomains of emotional labor, "emotional modulation efforts in profession" scored highest, which also corresponds to previous studies' findings (Back, Hyun, & Chang, 2017; Back, Hyun, Jeung, et al., 2017). The fact that this subdomain was scored the highest indicates that nurses make immense efforts to show sincere kindness to patients, understand them, and harmonize their emotions and attitudes with patients' emotional fluctuations (Hong, 2016). This also means that, with a keen sense of responsibility and commitment, nurses seek to overcome such emotional challenges. In the context of nursing organizations, nurses with an elevated level of emotional modulation seem to be better able to utilize their emotions during patient treatment; therefore, it is necessary to develop effective interventions to help them maintain this advantage. Further, the tool measuring emotional labor successfully measured nurses' ability to control their emotions, which can reflect key characteristics of the profession. Thus, this tool should be employed in the future to measure specific characteristics of the nursing profession.

In the nursing profession, nurses' efforts to best control their emotions for the patient involve using their emotions therapeutically. Caring for patients while pretending to have empathetic emotions can be regarded as the humanistic and altruistic properties of prosocial behaviors (Graber, 2009). In a previous longitudinal research (Lacetera & Macis, 2010), a primary motivator of prosocial behavior was determined to be social image concerns. Therefore, we assume nurses who have high levels of emotional labor could have more motivation to perform prosocial service behavior. However, the majority of studies, including a recent study on nurses' emotional labor (Lee & Kim, 2016) and a meta-analysis (Hulsheger & Schewe, 2011), verified that emotional labor negatively affects nurses' job satisfaction, relationships, work environments, and well-being; we must be cautious when interpreting these results.

Participants' levels of organizational communication satisfaction were consistent with past results obtained in Korea using the same tool (Jung et al., 2012; Yu, Chang, & Nam, 2009). Among the subdomains of organizational communication satisfaction, the highest score was given to "communication with supervisor" and the lowest score was given to "organizational integration", which also corresponds to prior studies that examined the level of organizational communication satisfaction among Korean nurses (Jung et al., 2012; Park, 2003; Yu et al., 2009).

In addition, as organizational communication satisfaction increased, prosocial service behavior increased accordingly. In hospitals, which are highly dependent on human resources and managing human life, good communication within organizations is essential (Orr, 2010). As shown in the model of the collaborative working relationship (Orr, 2010), communication is influential regarding reciprocity and prosocial behavior. Further, organizational communication satisfaction increases work efficiency and improves employee morale,

TABLE 3 Intercorrelation matrix for organizational communication, emotional labor, and prosocial service behavior ($n = 145$)

OCS	OCS	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	EL	2-1	2-2	2-3	PSB	3-1	3-2	3-3
OCS	1																
1-1. CC	.653**	1															
1-2. CSup	.400**	.095	1														
1-3. MQ	.704**	.394**	.246**	1													
1-4. HIC	.570**	.277**	.344**	.353**	1												
1-5. OI	.595**	.299**	-.078	.337**	.165*	1											
1-6. PF	.667**	.363**	.108	.434**	.134	.438**	1										
1-7. OP	.739**	.507**	.059	.305**	.334**	.460**	.452**	1									
1-8. CSub	.786**	.365**	.500**	.572**	.490**	.252*	.443**	.484**	1								
EL	.445**	.277**	.236**	.246**	.350**	.313**	.277**	.338**	.256**	1							
2-1. EM	.433**	.284**	.298**	.260**	.302**	.209*	.289**	.329**	.271**	.675**	1						
2-2. ES	.309**	.191*	.126	.152	.226**	.309**	.209*	.216**	.148	.762**	.159	1					
2-3. EP	.125	.056	.026	.069	.183*	.077	.021	.124	.089	.614**	.189*	.300**	1				
PSB	.524**	.373**	.301**	.336**	.331**	.285**	.309**	.335**	.441**	.578**	.556**	.338**	.278**	1			
3-1. ERS	.573**	.397**	.340**	.401**	.300**	.342**	.393**	.390**	.383**	.573**	.551**	.414**	.144	.805**	1		
3-2. RPS	.288**	.218**	.228**	.151	.204*	.110	.129	.183*	.289**	.403**	.442**	.149	.256**	.789**	.429**	1	
3-3. C	.387**	.276**	.153	.244**	.292**	.224**	.210*	.225**	.388**	.412**	.346**	.238**	.279**	.825**	.482**	.517**	1

* $p < .05$; ** $p < .001$. C = cooperation; CC = communication climate; CSub = communication with subordinates; CSup = communication with supervisor; EL = emotional labor; EM = emotional modulation efforts in profession; EP = emotional pretense by norms; ERS = extra-role service; ES = patient-focused emotional suppression; HIC = horizontal informal communication; MQ = media quality; OCS = organizational communication satisfaction; OI = organizational integration; OP = organizational perspective; PF = personal feedback; PSB = prosocial service behavior; RPS = role-prescribed service.

TABLE 4 Effect of organizational communication and emotional labor on prosocial service behavior

Variables	B	SE	β	t	P-value	Tolerance	VIF
Constant	1.05	.28		3.83	<.001		
Age	.03	.01	.04	.54	.587	.70	1.42
Salary (high)	.03	.06	.04	.47	.640	.70	1.44
Organizational communication satisfaction	.33	.07	.33	4.56	<.001	.80	1.26
Emotional labor	.41	.07	.41	5.58	<.001	.75	1.33
Adjusted R ² = .41							
F = 26.07***							

***P < .001; Durbin-Watson = 2.06, Durbin-Watson's du (lower critical limit) = 1.79, 4-du (upper critical limit) = 2.21. Breusch-Pagan's $\chi^2 = 2.66$ (P = .641).

SE = standard error; VIF = variance inflation factor.

positively affecting prosocial service behavior toward customers (Kim & Lee, 2017).

In a nursing organization, a prominent level of interdependence is expected among nurses, and they must communicate with many individuals of various occupations in order to provide efficient treatment for patients (Kim et al., 2012; Salmond & Echevarria, 2017). Organizational communication satisfaction is associated with relationships with superiors, companions, and subordinates; therefore, it is necessary to provide support to enhance communication satisfaction among organizational members. Additionally, it is vital that prosocial service behavior be improved by establishing communication channels through which organization members can share information and cooperate at work. Medical service at hospitals is provided cooperatively by a group of health-care providers, rather than solely by a single worker (Kim et al., 2012; Kwon et al., 2011); therefore, autonomous and volitional prosocial behavior to help others, and devotion to the organization (Weinstein & Ryan, 2010), could be considered paramount in hospital environments.

As there has been little research on nurses' prosocial service behavior, this study is of significance, as it verifies the effects of organizational communication satisfaction and emotional labor on such behavior. A medical center's competitiveness can be secured by increasing the level of service satisfaction among customers; that is, a medical center should provide service that meets customers' needs (Boshoff & Gray, 2004). Accordingly, we examined factors affecting nurses' prosocial service behavior in order to determine a basis for methods to enhance this behavior. In addition, we verified that organizational communication satisfaction and emotional labor are key factors for enhancing prosocial service behavior.

4.1 | Limitations

This study was limited to nursing staff from two hospitals in a single city in Korea; therefore, it is subject to selection bias, and there is a limit to the generalization of the results. In the future, it will be necessary to conduct repeated research among nurses from many hospitals. Further, the tool used to measure prosocial service behavior was originally developed for use in business administration; therefore, it might not fully reflect the characteristics of nurses' specialization. A specific tool to measure nurses' prosocial behavior should be developed.

4.2 | Conclusion

This cross-sectional research elucidated the extent that nurses' organizational communication satisfaction and emotional labor affect their prosocial service behavior. Although there are some limitations, these findings provide a basis for future studies to address nurses' productivity in nursing organizations. In conclusion, as nurses' organizational communication satisfaction and emotional labor increase, prosocial service behavior increases to a significant degree. Based on this finding, efficient communication with supervisors, companions, and subordinates within an organization should be promoted in order to improve nurses' personal satisfaction and prosocial service behavior. Further, nurses' emotional labor affected the increase in prosocial service behavior more significantly than organizational communication satisfaction. Nurses who utilize emotional labor might be more effective at treating patients than those who use it less; therefore, it is necessary to develop neutral perspectives of emotional labor in the nursing profession, particularly regarding means of modulating emotion (i.e. through emotional consonance) and suppressing and pretending emotion (i.e. through emotional dissonance).

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AUTHOR CONTRIBUTIONS

Study design: S.J.J. and Y.K.

Data collection: S.J.J. and Y.K.

Data analysis: S.J.J. and Y.K.

Manuscript writing and revisions for important intellectual content: S.J.J. and Y.K.

ORCID

Sun Joo Jang  <https://orcid.org/0000-0002-7655-1744>

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