

# Effects of Recognition of Customer Feedback on Relationships between Emotional Labor and Job Satisfaction: Focusing on a Call Center that Offers Professional Services

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**Abstract**—Focusing on professional call centers where workers with expertise perform services, this study aims to clarify the relationships between emotional labor and job satisfaction and the effects of recognition of customer feedback. Since the professional call center operators consist of professional license holders (qualification holders) and those who do not (non-holders), the following three points are analyzed in the two groups by using covariance structure analysis and simultaneous multi-population analysis: 1) The relationship between emotional labor and job satisfaction, 2) customer feedback and job satisfaction, and 3) the intermediation effect between the emotional labor of customer feedback and job satisfaction. The following results are obtained: i) No direct effect is found between job satisfaction and emotional labor for qualification holders and non-holders, ii) for qualification holders and non-holders, recognition of positive feedback and recognition of negative feedback had positive and negative effects on job satisfaction, respectively, iii) for qualification and non-holders, “consideration for colleagues” influences job satisfaction by recognizing positive feedback, and iv) only for qualification holders, the factors “customer-oriented emotional expression” and “emotional disharmony” have a positive and negative effect on job satisfaction, respectively, through recognition of positive feedback and recognition of negative feedback.

**Keywords**—Call center, emotional labor, professional service, job satisfaction, customer feedback.

## I. INTRODUCTION

SINCE the 1990s, the call center business has shouldered the critical role of a correspondent window with the customer. From the management’s point of view, call centers are seen as non-profit cost centers that merely respond to complaints and should operate on a “low-wage model” without much recognition of the professionalism of the staff [1]. However, the call center that needs the specialty exists. According to the Japanese Pharmaceutical Manufacturers Association [2], about 73% of inquiries at call centers of pharmaceutical companies are from pharmacists who provide patient compliance instruction, and the corresponding operators (employees) consist of those who have a pharmacist license (qualification holders) and those who do not have a pharmacist license (non-holders: salespeople, those who know products or pharmacology) (average 51% are pharmacists). As a feature of

the call center of the pharmaceutical enterprise, in order to deal with the medical supply which utilized new drugs and the latest pharmaceutical preparation technology, all employees (holder and non-holder) take continual education and training (including the telephone answering manner training) of 8.7 hours on average every month (104.4 hours in average year), and the specialty is retained.

In terms of specialization, [1] noted the increasing coordination between call centers providing telemedicine services and national health and insurance systems, and argued the need for further verification of the affinity of call centers with professional skills, identity, and professional practices, such as nursing staff related to medical care, to adopt call centers for social policy. In addition, it is indicated that the advance of the call center to the region with the specialty required a new mechanism for managing the talent of high ability. On the other hand, Sakurai [3] points out that there is not so much research for more advanced human specialized (professional) services (medical treatment, nursing, legal affairs) in the service industry and insists on the necessity of examining every service characteristic.

Until now, the research (e.g., Rutten et al. [4]) that utilizes the pharmacist as telephone consultation (Tele-care support) for the ingestion continuation support of diabetes mellitus and cancer has been reported as precedence research of the call center concerning the medical treatment. Despite workers’ extremely high level of social and emotional competence, few studies have addressed the organizational challenges of workplace mental health in call centers that provide professional services related to health care (professional call centers). The reason for this is that although the department or job of the call center is an essential task as a response window of the company, no special attention has been paid by the company to the recruitment activities of employees [5]. As a result, the organizational problems of call centers, such as emotional labor, low job satisfaction, high turnover, low morale, and poor customer service, have been pointed out [1].

Emotional labor is the concept advocated by Hochschild [6], and it indicates the condition in which the employee manages the feeling of the employee to “maintain the desirable condition

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for the customer” as part of the work for the customer. Since [6] claimed that emotional labor has a negative impact on workers’ mental health, research has also been conducted on call centers to develop emotional labor scales and to investigate the relationship between emotional labor and job satisfaction (e.g., [7]-[10]). Job satisfaction is related to work quality, efficiency, and career change [11], and is also an important index in call centers. However, the relationship between call center emotional labor and job satisfaction is not necessarily uniformly negative (e.g., [12]).

The relationship between emotional labor and job satisfaction, the effects of job differences, personal qualities (emotional labor aptitude), and psychological rewards (affirmation and praise from others) have been pointed out [9], [10]. Research covering multiple industries and jobs, such as restaurants and call centers, has reported that positive feedback and praise from others (customer feedback) may have a direct effect on job satisfaction or a mediated effect on the relationship between emotional labor and job satisfaction [13]-[15]. It is also necessary to verify the effect of the customer’s feedback on the relation of job satisfaction, emotional labor, and job satisfaction in the worker who offers the professional service.

Then, this study focuses on the professional call center for Health Care Professionals (HCPs, i.e., physicians, physicians, and pharmacists) to verify the effect of the recognition of emotional labor and the relation between job satisfaction and customer feedback for the professional service.

The following three points are analyzed:

- (1) The relationship between emotional labor and job satisfaction.
- (2) The relationship between customer feedback and job satisfaction.
- (3) The intermediation effect in the relationship between emotional labor of customer feedback and job satisfaction.

From the above verification, the relation between workers’ emotional labor and job satisfaction is clarified from the viewpoint of a professional call center, and it contributes not only to the employment of a call center but also to improving workers’ morale and positive mental health.

## II. CONCEPTUAL FRAMEWORK

Several hypotheses are derived from the findings of the following prior studies in which job satisfaction is examined as a dependent variable.

### A. Relationship of Emotional Labor to Job Satisfaction

Emotional labor has been reported to increase job satisfaction [16]. However, the call center research has yet to report a uniform result. Shuler et al. [17] conducted an interview survey of emergency call center operators (n = 17) and reported that the emotional labor of pretending to be calm without expressing emotion in emergency telephone answering, which is a stressful task, affects their joy and satisfaction with their work.

A study of call centers (n = 318) by Zito et al. [18] showed that the effect of emotional labor (dissonance) on job satisfaction was directly negative. In a study of call centers of multiple industries (foods, cosmetics: n = 138) conducted by

[12], the effect of emotional labor on workers’ mental health, such as stress and job satisfaction, were investigated, and as a result, emotional labor showed no effect on job satisfaction in any subscale.

Studies [9], [10] pointed out the influence of personal qualities (aptitude: empathy, patience, sociability) and educational history of employees on the effect of emotional labor on job satisfaction. Thus, the employee’s job satisfaction rises when the employee’s aptitude matches the work in which the emotional labor is required, and it is asserted as a factor in which the effect of the emotional labor on job satisfaction did not uniformly become negative while [16] also suggests that the negative effects of emotional labor are related to the low compatibility between people and work and work that does not reflect valuable identity.

Since the primary function of a call center is to “receive a telephone call and return a standard answer,” companies regard it as a cost center [1], and the negative effect of specific working conditions on job satisfaction suggested by [9] is significant. Ensuring accuracy in drug information and standardizing responses is crucial, particularly regarding the limited level of autonomy of professional call center workers. Even those specializing in information services, which are vital to HCPs, must adhere to these standards. Limiting autonomy appears essential in maintaining integrity. Consequently, this study suggests that professional call center emotional labor may not impact job satisfaction. Therefore, the following hypothesis is set:

H1. Emotional labor has no positive effect on job satisfaction.

Previous studies mentioned above [12], [18] have examined the impact on job satisfaction using emotional labor generated from the relationship between call center workers and customers. Reference [5] asserted that good correspondence work is impossible if call center workers cannot construct good relations with in-house parties emotionally and strategically. Even for highly specialized workers, relations with colleagues affect work results. In addition, communication is necessary for the relationship with the colleague, and it is asserted that the trouble of the information is eliminated by having public and private alternating current which exchanges the experience and opinions of each other, and that it is helpful for the quality improvement as a result. Therefore, keeping a good relationship with colleagues is necessary to do excellent work and achieve good results.

In the point of the relationship with the colleague, Pugliesi [19] asserted the existence of emotional labor for smoothing the relationship with the colleague in the workshop and made the scale from the viewpoint of the feeling management of the colleague. The emotional labor scale has been composed of three items of feeling management of the colleague (pain of the colleague, self-esteem of the colleague, arbitration of the quarrel of the colleague). However, because of the investigation for university staff (n = 1114), the emotional labor, including the emotional management of the colleague, showed an effect on stress and mental distress, and it did not show an effect on job satisfaction. Pugliesi & Shook [20] surveyed university staff (n = 1114) about the effects of emotional labor, including peer

relationships, on job satisfaction, stress, and mental distress. As a result, the emotional labor of self-emotion management had a negative effect on job satisfaction. In contrast, the emotional labor of colleagues' emotion management did not affect job satisfaction. In the meantime, the colleague's emotion management item of "supporting the stress of the colleague" negatively affected the "stress of the work."

Thus, the previous studies [19], [20] do not show a positive effect on job satisfaction in the relationship with colleagues advocated by [5]. In the meantime, there is continual training of all operators as job characteristics of the call center of the pharmaceutical enterprise, which this study becomes an object. In the continual and long-term training accompanied by the business, communication, such as teaching each other about the new drug and companion consciousness, such as doing role-play practice of the reception and feeling of supporting each other may positively affect the training of the participant fellow to be a better result. Therefore, it is considered essential to adopt the viewpoint of the emotional management of the colleague when emotional labor is considered in the professional call center of this study. Therefore, it is considered essential to adopt the viewpoint of the emotional management of the colleague when emotional labor is considered in the professional call center of this study. Therefore, the following hypothesis is set

H2. Emotional labor (peer affect management) positively impacts job satisfaction.

### B. Customer Feedback and Job Satisfaction

Customer feedback (approval, praise, reward, denial, rejection) has been reported to affect job satisfaction.

The study [15] examined the effect of emotional labor and gratitude/admiration from customers (recognition by employees that they have been thanked) on job satisfaction of part-time workers at restaurants (n = 87) in a new employee group and a non-new employee group. As a result, the admiration from the customer affected the job satisfaction in the novice group, and the sensitivity of the emotional labor affected the job satisfaction in the non-novice group.

Moreover, on evaluation and job satisfaction for the service of the customer, [3] carried out the questionnaire survey for the pharmacists (n = 565) who work in the dispensing pharmacy and the customers (patient: n = 12,475) of the dispensing pharmacy. It verified employee satisfaction and directivity of the cause and effect of customer satisfaction and function as an intermediary variable of the perception quality. Perceived quality refers to the quality of service perceived by customers.

As a result, the path from job satisfaction to customer satisfaction is insignificant, and only the path from customer satisfaction to job satisfaction was significant. Perceived quality enhanced customer satisfaction, but there was no mediating effect between job satisfaction and customer satisfaction. It became apparent that perception quality indirectly raised job satisfaction, and as a result, good service is related to customer satisfaction, and it is indicated that it is reflected in motivation and satisfaction with the pharmacist's work. Customer satisfaction and perception quality verified by [3] are guessed that the pharmacist receives some feedback on customer satisfaction

and perception quality from the customer every day because the pharmacy is a face-to-face sale.

From the above, the possibility that the customer's satisfaction and result influenced the worker's job satisfaction is indicated by the effect of the customer's feedback on job satisfaction. The following hypothesis is set, and the knowledge is obtained.

H3. Perceived customer feedback (positive) positively impacts job satisfaction.

H4. Perceived customer feedback (negative) has a negative impact on job satisfaction.

### C. Mediating Effect on the Relationship Between the Emotional Labor of Customer Feedback and Job Satisfaction

Since previous studies [9], [10], [14] have found that the results of verification of job satisfaction from emotional labor are not uniform, feedback such as customer praise or denial may be involved in job satisfaction [3], [21]. It may affect the relationship between emotional labor and job satisfaction.

Lewig & Dollard [22] examine the emotional dissonance (emotional labor) and rewards from others (monetary, esteem, status) of call center work and their relationship to job satisfaction in call center workers. Emotional labor, emotional dissonance and praise from others positively affected job satisfaction. No interaction between emotional dissonance and praise from others is shown to affect job satisfaction.

The study of [14] examined the relationship between emotional labor (surface acting, deep acting) and emotional exhaustion and the mediating effect of perception of positive feedback and perception of negative feedback (Perception of positive feedback, perception of negative feedback) on job satisfaction and intention to leave and change in employees (n = 577) of multiple occupations including call centers. As a result, the employees' emotional labor lowered the emotional exhaustion. It raised job satisfaction by recognizing the positive feedback from the customers and, as a result, lowered the intention of leaving and changing jobs. The customer's negative feedback showed the effect of the intermediation in the reverse.

Considering the results of [14] and [22] and the reports of [3] and [15], it cannot be denied that customer feedback (positive and negative) is related to emotional labor and job satisfaction. In addition, identifying the relationship between emotional labor and the "perception of receiving positive or negative feedback from customers" of professional service call center workers is necessary to obtain knowledge for mental health measures and management in the workplace of highly specialized workers. Based on the report of [14], the following hypotheses are set in this study.

H5. Mediated by recognition of customer feedback (positive), emotional labor [8] positively impacts job satisfaction.

H6. Emotional labor (peer emotion management) positively affects job satisfaction, mediated by recognition of customer feedback (positive).

H7. Emotional labor [8] shows a negative effect on job satisfaction, mediated by recognition of customer feedback (negative).

H8. Emotional labor (peer emotion management) negatively

affects job satisfaction through the perception of customer feedback (negative).

Previous studies on professional services [3] did not consider workplaces where both qualification holders and non-holder employees perform the same work, and studies on the relationship between emotional labor and job satisfaction [14]; [22] also did not report analyses based on differences in license qualifications. On the other hand, co-centers of pharmaceutical companies need more pharmacists to respond to inquiries about new mechanisms of action of newly launched drugs (new drugs) [2].

In this way, in the recruitment of human resources of the professional call center, there are cases where a specific qualification measures ability or a recruitment standard is used. However, the call center is not composed only of the qualification holders [2]. Based on social trends such as the employment situation of future qualification holders, verifying the difference between qualification holders and non-holders is thought to help improve the work environment and productivity after employment. Therefore, this study focuses on differences in the same hypothesis testing (H1-H8) between qualification holders and non-holders.

### III. PRELIMINARY INVESTIGATION

#### A. Purpose and Results

Purpose: To understand the emotional labor of the call center employee in the professional medical call center. The semi-structured interviews were conducted for five people (all women and all pharmacists) who worked for the call center of the pharmaceutical companies and agreed to have the interviews. The key questions were the composition of the concept of emotional labor and the effect of emotional labor on job satisfaction, the effect of a medium of "recognition of the customer feedback" between emotional labor and job satisfaction, and components of job satisfaction.

Results: The following four points were obtained.

1. The five concepts of emotional labor were "superficial adaptation to customer's emotion", "emotional dissonance," "positive emotion expression," "sensitivity to customer's emotion," and "consideration to colleagues."
2. From the content, "recognition of the customer feedback" consists of four: "approval by the sincerity," "approval by the academic depth," "approval in the neutral correspondence," and "denial based on unreasonable and misunderstanding."
3. The components of job satisfaction were "positive feelings toward the workplace" and "negative feelings toward the workplace."

Referring to the result of the above preliminary investigation and precedent research, question items used in this research were confirmed.

### IV. MAIN INVESTIGATION

#### A. Investigation Collaborators and Procedures

By snowball sampling, the questionnaires were sent by

electronic mail through the call center chief of six pharmaceutical companies in the Kanto and Kansai areas in Japan. The responses were obtained from 241 people (48.2%) out of about 500 employees and temporary workers of the call center of the enterprise, who got the agreement for the investigation cooperation. Valid responses were obtained from 225 (45.0%) of the respondents. The survey period was from September 25 to October 25, 2017.

#### B. Composition of the Questionnaire

As the emotional labor scale is for the exclusive use of the call center, the emotional labor scale for the call center workers [8] was adopted. "Dissonance of the feeling," "surface adaptation to the customer," "positive feeling expression to the customer," and "sensitivity to the feeling of the customer" are the low order scale of the emotional labor of the call center employee. In addition, three items were included from emotional labor focusing on the colleague (pain of the colleague, self-esteem of the colleague, arbitration of the conflict of the colleague) of [19]. Since there is no job satisfaction scale through the call center work, five items were adopted from the nurse's job satisfaction measurement scale [11].

*Customer Feedback Recognition Questions:* Based on the preliminary investigation, four concepts of "approval by the sincerity," "approval by the specialty," "approval in the academic neutral correspondence," and "denial based on unreasonable and misunderstanding" as recognition of the customer feedback were developed as question items in each of the four items, and it was composed of all 16 items, based on a scale ranging from "1: None" to "5: It is very common".

*Emotional Labor Questions:* Based on a preliminary study, we adopted all four subfactors ("emotional dissonance," "superficial adaptation to customer's emotion," "positive emotional expression," and "sensitivity to customer emotions") that make up the adaptive behavior scale at the call center in Ishikawa [8]. From each factor, the item with a high factor load was chosen among every three items, resulting in the creation of 12 items. In addition, we consider the emotional labor Other-Orientation Scale from [19], three items assessing the emotional labor of "consideration to the colleague" were included based on the factor. Responses were collected from a scale ranging from: "1: Not at all" to "5: Frequently".

*Question Item of Job Satisfaction:* The scale of job satisfaction from [11] was adopted by selecting the content that matched the context of the non-face-to-face interaction of the call center, since the face-to-face interaction with the patient was assumed. The factor load was high in the selection, and the content was partly changed, referring to the item confirmed in the preliminary investigation, composed of five items, with responses based a scale ranging from "1: No" to "5: Yes".

### V. RESULTS

IBM SPSS Statistics28 and AMOS28 were used for statistical analysis.

### A. Respondent Attributes

The responses of the 225 survey respondents are as follows: 158 (70.2%) were women and 67 (29.8%) were men. The age distribution was as follows: 20s (18.2%, 36 women, five men; same hereafter), 30s (41.8%, 74,20), 40s (22.2%, 36,14), 50s (13.3%, 18,12), and 60s (4.4%, 0,10). There were 125 (55.6%) pharmacist qualification holders and 100 (44.4%) non-holders.

### B. Examination of Factor Structure

In all question items, mean value and standard deviation were calculated, and it was confirmed that there were no ceiling effects or floor effects. To identify the factor structure of each variable of “emotional labor,” “job satisfaction,” and “recognition of customer feedback,” confirmatory factor analyses were performed. The modeling was repeated while the pass coefficient

and goodness of fit were verified. In the modeling, a correlation was assumed between each factor. The comparison of model fitness is shown in Table I.

As a result of the confirmatory factor analysis using all 15 items of “emotional labor,” the four-factor model showed the best value within the tolerance in each goodness of fit of RMSEA, AIC, BIC ( $\chi^2 = 137.43$ ,  $df = 84$ ,  $p < 0.001$ , GFI = 0.92, CFI = 0.95, RMSEA = 0.05, AIC = 209.43, BIC = 214.97) (Emotional labor: Model 2). Referring to the content of constructed factors and the naming of the sub-factor scale by [8], “consideration to colleagues,” “customer-oriented expression of feelings,” “superficial adaptation to customer’s emotion,” and “emotional dissonance” were respectively named.

TABLE I  
COMPARISON OF MODEL FITNESS

Models	Total number of questions	Questions used for each comparison	$\chi^2$	$df$	$p$	GFI	CFI	RMSEA	AIC	BIC
Emotional Labor										
1 Three-factor model	15	(6, 6, 3)	157.00	87	$p < 0.001$	0.92	0.94	0.06	223.00	228.08
2 Four-factor model	15	(3, 6, 3, 3)	137.43	84	$p < 0.001$	0.92	0.95	0.05	209.43	214.97
3 Five-factor model	15	(3, 3, 3, 3, 3)	136.79	82	$p < 0.001$	0.92	0.95	0.06	212.79	218.64
Recognition of customer feedback										
1 One-factor model	12	(12)	233.73	54	$p < 0.001$	0.84	0.76	0.12	281.73	363.71
2 Two-factor model a	12	(8, 4)	117.34	53	$p < 0.001$	0.92	0.88	0.07	167.34	252.75
3 Two-factor model b	11	(7, 4)	82.61	43	$p < 0.001$	0.94	0.95	0.06	128.61	207.18
Job satisfaction										
1 One-factor model a	5	(5)	44.56	5	$p < 0.001$	0.92	0.93	0.19	64.56	65.11
2 One-factor model b	4	(4)	4.79	2	0.09	0.99	0.99	0.08	20.79	21.15

TABLE II  
STATISTICS FOR EACH SUBSCALE (1)

	n	Min	Max	Mean	SD
Emotional Labor					
Consideration to colleagues					
V-13. I sometimes support my colleagues so that they can work comfortably.	225	1	5	3.86	0.82
V-14. I sometimes help my colleagues deal with stress and difficulties at work.	225	1	5	3.55	0.93
V-15. When there is tension or conflict between co-workers, I sometimes intervene to avoid a bad atmosphere in the workplace.	225	1	5	2.70	1.10
Cronbach’s $\alpha$	0.70				
Customer-oriented expression of feelings					
V-7. Trying to create a warm atmosphere for customers.	225	1	5	4.24	0.72
V-8. Responds in a cheerful voice even when he is not feeling well.	2255	1	5	4.00	0.88
V-9. Always treat customers with kindness.	2255	1	5	3.94	0.79
V-10. May respond from the customer’s point of view.	225	2	5	4.05	0.76
V-11. I try to understand the customer’s feelings.	225	1	5	4.31	0.71
V-12. Always pay attention to the customer’s tone and tone of voice.	225	1	5	4.25	0.76
Cronbach’s $\alpha$	0.69				
Superficial adaptation to customer’s emotion					
V4. Sometimes I have to keep up with customers even though I have other work to do.	225	1	5	2.83	1.04
V5. Some customers may have long conversations.	225	1	5	2.59	0.85
V6. In conversations with customers, I sometimes have to deal with things that I don’t care about.	225	1	5	2.91	0.97
Cronbach’s $\alpha$	0.72				
Emotional dissonance					
V-1. Put up with customers complaining about things that aren’t your fault.	225	1	5		
V-2. The customer’s attitude is arrogant, and they endure even if they feel uncomfortable.	225	1	5		
V-3. Through no fault of my own, there are times when I have to apologize to my customers.	225	1	5		
Cronbach’s $\alpha$	0.75				

TABLE III  
STATISTICS FOR EACH SUBSCALE (2)

	n	Min	Max	Mean	SD
Customer's feedback					
Recognition of the positive feedback					
IV-1. Respond according to the level of knowledge of the other person, and the other person will say, "I understand well," "I was saved," and "I feel relieved."	225	1	5	3.46	0.77
IV-2. We provide professional explanations of pharmacy, and have them say, "I understand very well."	225	1	5	2.52	0.93
IV-3. Explaining questions about the latest findings at academic societies, etc., and being told that they learned a lot.	225	1	5	1.84	0.89
IV-9. Providing information that balances the risks and benefits of drugs based on data, and is said to be "easy to understand."	225	1	5	2.53	0.94
IV-10. Evidence-based information is provided in response to inquiries about our company's products, and it is said that "understanding has deepened."	225	1	5	2.83	0.85
IV-11. Explaining treatment methods based on evidence, and being told that I learned a lot.	225	1	5	2.56	0.93
IV-12. Inquiries only refer to neutral information such as the websites of academic societies and the Ministry of Health, Labor and Welfare, and are said to have been helpful.	225	1	5	2.34	1.01
Cronbach's $\alpha$	0.87				
Recognition of the negative feedback					
IV-13. People say they don't like the company name, product name, and content of commercials.	225	1	5	1.65	0.88
IV-14. Get yelled at by inquiries about other companies' products or medical systems that are unrelated to your company's products (reverse item).	225	1	5	1.86	0.82
IV-15. Being reprimanded for the measures and policies of the company you belong to (reverse item).	225	1	5	1.64	0.89
IV-16. Getting yelled at because you are dissatisfied with the contents of the booklet or website distributed by the company (reverse item).	225	1	5	1.97	0.94
Cronbach's $\alpha$	0.69				

TABLE IV  
STATISTICS FOR EACH SUBSCALE (3)

	n	Min	Max	Mean	SD
Job satisfaction					
I feel a deepening of my expertise in my current job.	225	1	5	4.04	0.92
I find my call center job rewarding.	225	1	5	3.88	1.00
I can't find any meaning in my current job (reverse item).	225	1	5	4.19	1.01
I find my job at a pharmaceutical company rewarding.	225	1	5	4.04	0.95
Cronbach's $\alpha$	0.87				

As a result of carrying out the confirmatory factor analysis on all 15 items of "customer feedback" and verifying the goodness of fit, it became two factors ( $\chi^2 = 82.61$ ,  $df = 43$ ,  $p < 0.001$ , GFI = 0.94, CFI = 0.95, RMSEA = 0.06, AIC = 128.61, BIC = 207.18) composed of 11 items except for the item without significance, and the numerical value within the tolerance was obtained (Customer feedback: Model 2). It was confirmed that two factors emerged, namely: "recognition of positive feedback" and "recognition of negative feedback." These factors represented the recognition of academic positive approval and admiration for the correspondence from the customer and the recognition of negative or unreasonable feedback from the customer.

"Job satisfaction" was assumed to be a one-factor model using all five items, and improvement of the goodness-of-fit was necessary (RMSEA = 0.19). As a result of reexamining the use items and removing one item out of two items showing high correlation, the fitness ( $\chi^2 = 4.79$ ,  $df = 2$ ,  $p = n. s$ , GFI = 0.99, CFI = 0.99, I =, RMSEA = 0.08, AIC = 20.79, BIC = 21.15) was within the allowable range (Job satisfaction: Model 2).

The variable score was obtained by dividing the sum of the scores of the item groups constituting each variable by the number of items. Tables II and III show the mean (Mean), standard deviation (SD), and reliability statistics (Cronbach's  $\alpha$ ) of the constituent items adopted for each variable.

### C. Comparison by Mean Value

Table V shows the results of the *t*-test analysis of the difference in the mean value of each variable between qualification holders and non-holders. It was "surface adaptation to the customer," "recognition of the positive feedback," and "recognition of the negative feedback" that the significance was obtained, and the average value of the holder was also high. Therefore, it was shown that the holder was more sensitive to "customer feedback" than the non-holder. At the same time, the emotion was managed in the business in proportion to the partner.

### D. Correlation Analysis

The results of the correlation analysis performed between each subscale are shown in Table VI. As for the relationship between "emotional labor" and "job satisfaction," "concern for colleagues" and "customer-oriented expression of feelings" were significantly correlated with "job satisfaction" only among the qualification holders. The relationship between "emotional labor" and "recognition of positive feedback" showed a significant correlation with "consideration to colleagues" in both holders and non-holders. Also, the qualification holder showed a significant correlation between "consideration to colleagues" and "customer-oriented expression of feelings". However, "consideration to colleagues" showed a significant correlation between

“superficial adaptation to customer’s emotion” and the non-holder. A significant correlation between “recognition of negative feedback” was found with “superficial adaptation to customer’s emotion” and “emotion of dissonance of feelings,” respectively. There was a significant correlation between “recognition of positive feedback” and “job satisfaction” in both qualification holders and non-holders.

Results of the correlation analysis (upper diagonal line indicates eligible subjects (n = 125), the lower diagonal line indicates non-eligible subjects (n = 100) were observed. Moreover, there was a significant correlation only in the qualification holder between “recognition of the negative feedback” and “job satisfaction.”

TABLE V  
T-TEST ANALYSIS RESULTS

Valuables	Qualification holder		Non-holder		t	(df)	p	95% CI		
	Mean	SD	Mean	SD				Lower	Upper	Cohen’s d
Consideration to colleagues	3.29	0.80	3.47	0.69	-1.84	(223)	p > 0.05	-0.51	0.02	0.75
Customer-oriented expression of feelings	4.08	0.54	4.20	0.61	-1.64	(223)	p > 0.05	-0.48	0.04	0.57
Superficial adaptation to customer’s emotion	2.89	0.70	2.63	0.82	2.54	(223)	p < 0.05	0.08	0.61	0.76
Emotional dissonance	3.53	0.79	3.31	0.99	1.79	(223)	p > 0.05	-0.02	0.50	0.88
Recognition of positive feedback	2.67	0.56	2.47	0.80	2.05	(170.66)	p < 0.05	0.02	0.55	0.68
Job satisfaction	1.90	0.66	4.63	0.58	3.25	(223)	p < 0.01	0.17	0.70	0.62
Consideration to colleagues	4.07	0.74	3.99	0.85	0.77	(223)	p > 0.05	-0.16	0.37	0.79

TABLE VI  
RESULTS OF CORRELATION ANALYSIS

Valuables	1	2	3	4	5	6	7
1 Consideration to colleagues	-	0.34**	0.07	0.07	0.39**	0.10	0.26**
2 Customer-oriented expression of feelings	0.16	-	0.22*	0.33**	0.37**	0.09	0.24**
3 Superficial adaptation to customer’s emotion	0.25*	0.31	-	0.49**	-0.02	0.23**	-0.12
4 Emotional dissonance	0.13	0.36**	0.65**	-	0.12	0.33**	-0.17
5 Recognition of positive feedback	0.34**	0.17**	0.21*	0.10	-	0.19*	0.29**
6 Recognition of negative feedback	0.15	0.08	0.46	0.43**	0.29**	-	-0.25**
7 Job satisfaction	0.13	0.06	-0.10**	-0.18	0.44**	-0.026	-

The upper diagonal line is qualification holders (n=125), the lower diagonal line is non-holders (n=100)  
\*p < 0.05, \*\*p < 0.01

E. Analysis of Process of Effects between Variables by Multi-Population Simultaneous Analysis

Hypotheses (H1-H4) were tested on the influence process between the qualification holder and non-holder variables. Covariance structure analysis and multi-population simultaneous analysis were performed. The hypothesis verification, which set “recognition of the customer feedback” as the preceding factor and mediating factor, “job satisfaction” as the affecting factor, was conducted for “emotional labor.” The model’s goodness of fit is  $\chi^2 = 17.05$ ,  $df = 8$ ,  $p = 0.03$ ,  $GFI = 0.98$ ,  $CFI = 0.97$ , and  $RMSEA = 0.07$  were within the acceptable range. Theory of independent variable to dependent variable (job satisfaction).

The explained score was 23% and 24% for the qualification holders and non-holders, respectively. The influence process of the whole model and the obtained path coefficient (standardized solution, only significant path is shown) are shown in Figs. 1 and 2 for each qualification holder and non-holder. The significance was not shown in all paths when the difference between the qualification holder and non-holder of the path coefficient by the paired comparison was confirmed.

To begin with, there was no common significant path showing a direct effect on “job satisfaction” for the four variables of “emotional labor” between qualification holders and non-holders. Therefore, H1 and H2 were not supported by either qualification holders or non-qualification holders.

Next, the significant positive path, which showed the effect from “recognition of the positive feedback” to “job satisfaction,” was familiar to qualification holders and non-holders. Therefore, H3 was supported by both qualification holders and non-qualification holders. In addition, it was standard for qualification holders and non-holders, and the significant negative path, which showed the effect on “job satisfaction,” was shown as “recognition of the negative feedback.” Therefore, H4 was supported by both qualification holders and non-holders.

Secondly, hypotheses H5-H8 were tested, to verify the indirect effect in which the variable of each “emotional labor” factor affects “job satisfaction” through “recognition of positive feedback” and “recognition of negative feedback.” The estimation of a 95% bootstrap confidence interval was conducted using the bias modified bootstrap method which set the resampling number at two thousand times. The results are shown in Table VII.

The study found that “Consideration to the colleague” was a common factor among both qualification holders and non-holders, and the indirect effect mediated by “recognition of positive feedback” was significant. Therefore, hypotheses H6 and H8 were supported. Specifically, only qualification holders showed a significant indirect effect where “customer-oriented expression of feeling” mediated “recognition of positive feedback.” Thus, H5 was partially supported exclusively among

qualification holders. Similarly, the indirect effect mediated by “emotional dissonance” and “recognition of negative feedback” was significant only for qualification holders, thereby partially supporting H7. Overall, complete mediation effects were observed for both qualification holders and non-holders. This was because the variable of emotional labor variables, for which these indirect effects were significant, shared the characteristics that direct effect on “job satisfaction” was not significant for qualifications both groups.

## VI. DISCUSSION

This study verified the effect of the recognition of customer feedback concerning job satisfaction and emotional labor from the professional call center (pharmaceutical enterprise) viewpoint. The following four points are examined, including the factor structure of the emotional labor of the professional call center confirmed in the process of verifying the hypothesis.

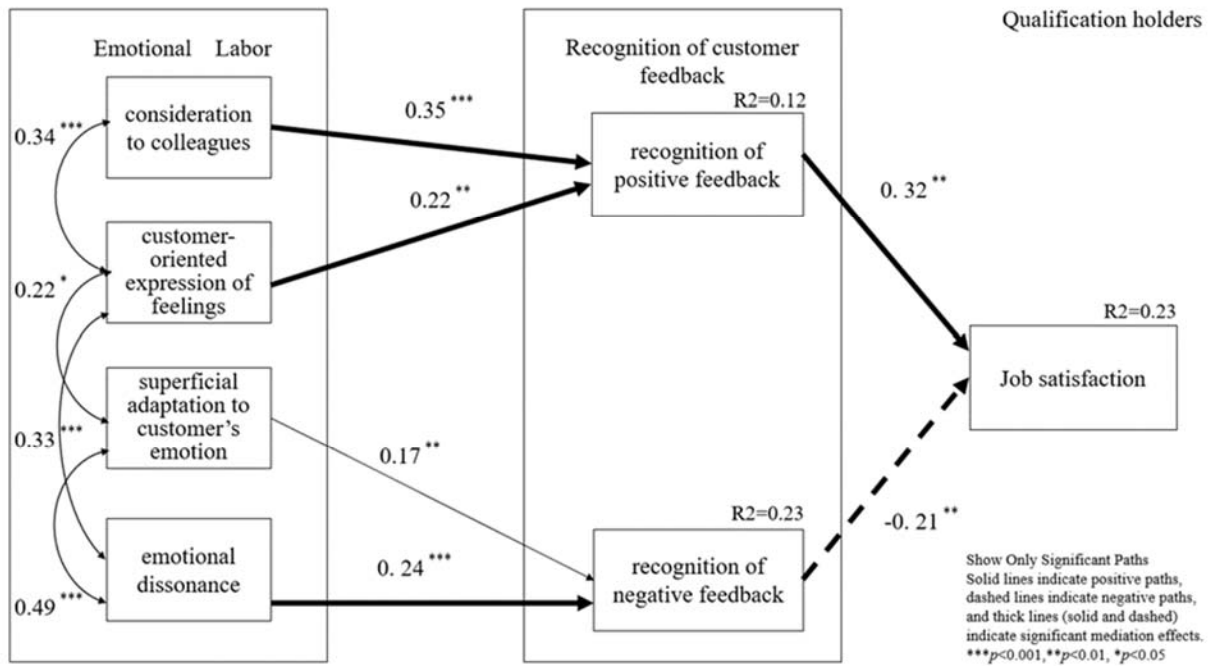


Fig. 1 Influence process of “emotional labor”, “customer feedback”, and “job satisfaction” of qualification holders

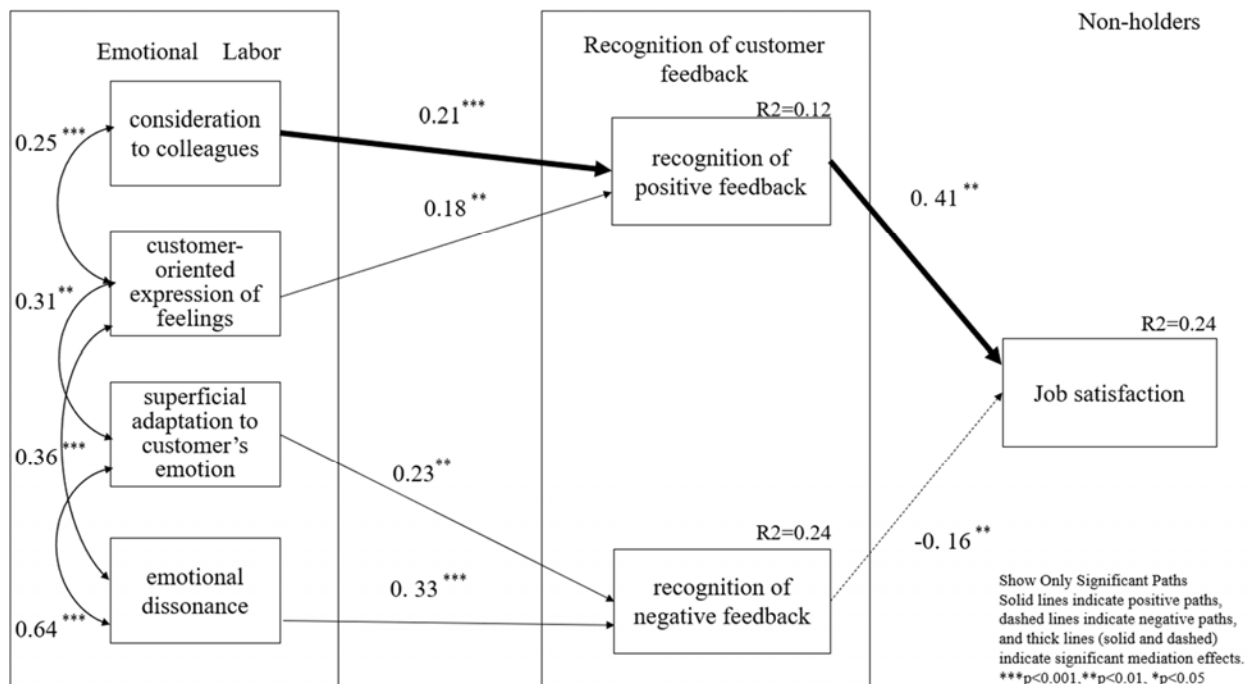


Fig. 2 Influence process of “emotional labor”, “customer feedback”, and “job Satisfaction” of non-holders



TABLE VII  
RESULTS OF DIRECT AND INDIRECT EFFECTS

			Direct effect to Job satisfaction				Significance test of indirect effect to job satisfaction							
			b	95%CI		p	Recognition of positive feedback				Recognition of negative feedback			
				high	low		b	95%CI		p	b	95%CI		p
1	Consideration to colleagues	qualification holder	0.21	0.21	-0.08	n.s	0.06	0.01	0.15	**	-0.02	-0.08	-0.08	n.s
		non-holder	0.09	0.09	-0.24	n.s	0.18	0.06	0.36	**	0.00	-0.05	0.01	n.s
2	Customer-oriented expression of feelings	qualification holder	0.06	0.06	-0.01	n.s	0.09	0.02	0.21	**	0.02	-0.03	0.11	n.s
		non-holder	0.22	0.22	-0.19	n.s	0.07	-0.07	0.24	n.s	0.01	-0.03	0.09	n.s
3	Superficial adaptation to customer's emotion	qualification holder	0.83	0.83	-0.20	n.s	-0.04	-0.12	0.00	n.s	-0.03	-0.10	0.02	n.s
		non-holder	0.83	0.83	-0.40	n.s	0.07	-0.06	0.27	n.s	-0.02	-0.10	0.05	n.s
4	Emotional dissonance	qualification holder	0.12	0.12	-0.37	n.s	0.02	-0.02	0.08	n.s	-0.07	-0.17	-0.02	**
		non-holder	0.17	0.17	-0.39	n.s	-0.03	-0.16	0.10	n.s	-0.03	-0.16	0.10	n.s

\*\*p < 0.01, n.s (not significant)

### A. Factor Structure of "Emotional Labor"

In this study, an emotional labor behavior scale (four-factor structure) was used [8], and the results of confirmatory factor analyses showed three factors: "customer-oriented emotion expression," "superficial adaptation to customer's emotion," and "emotional dissonance." As [15] points out, the difference between occupation and business type is the reason. "Customer-oriented expression of emotion" in this study is a variable in which "positive expression of emotion" and "sensitivity (consideration) to customer's emotion" [8] are integrated by confirmatory factor analysis. The average value of each item constituting "customer-oriented expression of feelings" was 3.94 to 4.31, showing a high tendency. The reason was considered that since this study is conducted based on the employees at call centers of pharmaceutical companies, there should be an altruistic aspect in job characteristics such as being "sensitive to customers' feelings" and "close to customers with positive feelings."

### B. Direct Impact of "Emotional Labor" on "Job Satisfaction"

From the verification results of H1 and H2, in the professional call center, the direct effect on "job satisfaction" from either "emotional labor" was not shown in both qualification holders and non-holders. As for the correlations between "emotional labor" and "job satisfaction" in this study, only "consideration to colleagues" and "customer-oriented expression of emotion" of the qualification holders showed weak correlations, while those of the non-qualified people showed no correlations. Therefore, it seems that the influence between any of factors of "emotional labor," and "job satisfaction" is not high.

On the result that "emotional labor" did not show an effect on "job satisfaction," the possibility of the change of the way of catching "emotional labor" by the effect of continuous training, which is a feature of the subject professional call center, is examined. Continuous training, including telephone answering, is conducted every month for a fixed time, and the range (scope) of answering business and business will be learned through the training. As part of this, it is considered that "apologize for not being able to answer and hang up the phone" is made to be "standard work." In addition, through training, they are expected to learn customer service skills and techniques,

including how to have a conversation according to the customer in order to hear the customer's questions (needs), how to manage their own emotions without being swayed by the other party's emotions, and how to cooperate with colleagues when they cannot answer by themselves. These skills and techniques require the emotional management of self and others. Therefore, in the professional call center of this study, it is considered that "emotional labor" did not affect "job satisfaction" because it is the skill and technique necessary for business contact as emotional labor, including feeling management of customers and colleagues.

### C. Relationship between "Recognition of Customer Feedback" and "Job Satisfaction"

From the verification results of H3 and H4, "recognition of the positive feedback" showed a positive effect, and "recognition of the negative feedback" showed an adverse effect on "job satisfaction" in common for qualification holders and non-holder. Therefore, it was shown that "recognition of customer feedback" influenced "job satisfaction" in the professional call center.

The study of [3] reported that satisfaction and results of the customer become motivation and satisfaction of the work of the self on the influential factor to job satisfaction of the pharmacist for the professional. In addition, the effect of customer-oriented education on medical treatment and job satisfaction is also indicated in the case of the medical profession. In this study, qualification holders and non-holders continuously receive "education and training of the customer orientation on the medical treatment" throughout the year for the information service to the HCPs with the high specialty. Therefore, it is considered that training and education provided by the organization foster the customer orientation on medical treatment and affect the work result because of the customer orientation. As a result of this study, education and training relate to results and motivation of the work, which gives the organization a viewpoint on the future training plan.

### D. Mediating Effect of "Recognition of Customer Feedback"

From the verification of H5 to H8, "recognition of the customer's feedback" was considered a medium on the effect of emotional labor on job satisfaction. To begin with, the intermediation effect, which was expected and significant for

qualification holders and non-holders, was examined. "Consideration to colleagues" mediated "recognition of positive feedback" and had a positive effect on "job satisfaction." Therefore, the effect of "consideration to the colleague" on "job satisfaction" established the perfect intermediation effect, which was explained by "recognition of positive feedback," which was the intermediation variable. This result agrees with the assertion of [5] that "as a result, the good relationship with the colleague is useful for the quality improvement," and the employee may be conscious of the relevance of "consideration to the colleague" and "recognition of the positive feedback."

A good relationship was built with the colleague, which affected the learning effect and improvement in the correspondence ability in the training, and it became that the answer in which the customer agrees could be offered. The improvement in response-ability led to the recognition that positive feedback was obtained from the customer, and as a result, it had a favorable effect on job satisfaction. It is also considered that communication skills were improved to maintain good relationships with colleagues and that it would enable effective communication with the customer.

Next, we consider the mediation effect, which was significant only for the qualification holders. As for the qualification holders, "expression of customer-oriented feeling" mediated "recognition of positive feedback" and "emotional dissonance" mediated "recognition of negative feedback," respectively, showing a perfect mediating effect on "job satisfaction." In the comparison of the average value of "recognition of positive feedback" and "recognition of negative feedback" (Table VII), the score of the qualification holder was higher than that of the non-holder, and the significance was shown. There was no difference in the average "customer-oriented expression of feeling" score between the qualification holders and non-holders.

Therefore, it is considered that the qualification holder is more aware (sensitive) to the evaluation (feedback) of the customer to himself. On the sensitivity of the qualification holder, the peculiar viewpoint of "conversation between fellow traders" is considered because most of the customers are HCPs (71% the pharmacists) as a possibility. There is a possibility that those with such license qualifications may have had a different attitude than those without. The qualification holder can pay more attention to the customer's background and the ambiguous point of the question content as a fellow, and it may become the information service in which both workers and customers agree. As a result, "recognition of positive feedback" rose, and it was considered that it affected "job satisfaction."

## VII. CONCLUSION

In conclusion, this study clarifies the relation between "emotional labor," "job satisfaction," and "recognition of customer feedback" for professional service. This study shows that the training and education the organization offers to the employee specialty is highly related to the results and motivation of the work. The result would also give the organization a viewpoint on the importance of continuous

employee training and education. The result of this study leads not only to the improvement of the quality of the whole call center but also to the recruitment and fixing of human resources by the improvement of morale and positive mental health, job satisfaction of the employee, and it is considered that it can also contribute to the management. In addition, since there have been few research reports on call center research due to the difficulty of demonstration research in the enterprise, this study considers the obtained data very valuable.

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