Commitment profiles among nurses: combinations of organizational commitment forms and work engagement, psychological distress, and turnover intention

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Abstract: To clarify the combined effect of the sub-factors of organizational commitment, this study examined the relationships between organizational commitment profiles and work engagement, psychological distress, and turnover intention among nurses. A cross-sectional survey was conducted; 455 nurses (38 men and 417 women) were included in the statistical analysis. We extracted six clusters through k-means cluster analysis and applied a one-way analysis of variance and χ^2 test for work engagement, psychological distress, and turnover intention. Consequently, significant differences were found in work engagement and turnover intention (both $p<0.05$), and no significant difference was found in psychological distress. These results indicate the formation of affective and normative commitment among nurses in working energetically or preventing turnover. Additionally, no negative effects related to increases in continuance commitment were identified in this study.

Key words: Combined effect, Nurses, Organizational commitment, Profile analysis, Psychological distress, Turnover intention, Work engagement

A severe problem in the health care sector worldwide is that of the shortage of nurses[1]. The turnover rate of nurses in Japan has remained high at 11.5%[2]. The main reasons nurses leave their jobs are life events such as marriage and pregnancy. Other causes are high occupational stress such as overtime work and the burden of night shifts[3]. In contrast, a favorable workplace climate has prevented nurses' turnover[4], thereby improving work engagement (WE)[5]. Therefore, organizational measures are essential to resolve

the nursing shortage and prevent mental health problems by creating a comfortable work environment.

Organizational commitment, which refers to a worker's loyalty to their employer, predicts turnover[6]; this psychological concept has been discussed for nurse turnover[7]. Among the many theories on organizational commitment, the three-dimensional model proposed by Allen and Meyer has been the most frequently used worldwide[6]. This model considers affective commitment (AC), continuance commitment (CC), and normative commitment (NC). First, AC refers to an employee's emotional attachment to their organization[6], indicating a healthy psychological connection. Second, CC is based on the perceived cost of losses

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incurred when leaving an organization[6]. Workers with high CC have no reason to contribute to the organization and stay because it is difficult to quit; therefore, CC signifies passive or reluctant psychological ties to an organization[8]. Finally, NC refers to the sense of duty and loyalty to stay attached to an organization without a reason[6].

Previous studies on organizational commitment have mainly considered the three sub-factors as independent and examined their relationships with antecedent and consequent variables[8, 9]. Recently, however, studies have examined the three factors' combined effects using cluster analyses to create commitment profiles[10, 11]. Considering the lack of knowledge on CC and NC compared to that on AC[8, 12], it is important to discuss the roles of the former two by examining their combined effects.

In this study, we examined the combined effect of organizational commitment's sub-factors on nurses, whose labor shortage is expected to become more serious in the future[1, 2]. To examine each sub-factor's role in depth, we examined the relationship between the extracted profile by cluster analysis and three variables: WE, a psychological state of being energetic and enthusiastic toward work; psychological distress, a type of stress response associated with job turnover[4]; and turnover intention.

An anonymous cross-sectional questionnaire survey was conducted among nurses working at a university hospital in the Chugoku region of Japan from December 2019 to January 2020. Of the 533 responses (response rate: 70.4%), 455 (38 men and 417 women) were included in the final analysis, excluding the ones with missing values and entry errors. The Ethical Review Committee of the Tottori University School of Medicine approved this study (reference number: 19A147).

The Japanese version of the three-dimensional Organizational Commitment Scale was used to measure organizational commitment[13]. In this study, Cronbach's alpha coefficients were 0.86, 0.68, and 0.78 for AC, CC, and NC, respectively. We used the shortened version of the Utrecht Work Engagement Scale in Japanese to measure WE[14]. Cronbach's alpha coefficient for WE was 0.94. The Kessler 6-item scale was used to measure psychological distress[15]; its Cronbach's alpha coefficient was 0.91. To measure turnover intention, we created a unique item: "Have you wanted to quit your job recently?". The response options were "yes" or "no".

Furthermore, k-means cluster analysis was used to identify the profiles of organizational commitment[10, 11]. Based on Meyer and Herscovitch[16], we started with eight clusters. Then, a one-way analysis of variance and χ^2 test were conducted using the types of clusters and WE, psychological distress, and turnover intention. IBM SPSS Version 26 was used for all analyses.

We did not adopt eight or seven clusters because there was a cluster consisting of only one person. We ultimately set six clusters and identified six groups (Fig. 1): "Highly committed (HC)", "Affective-normative commitment
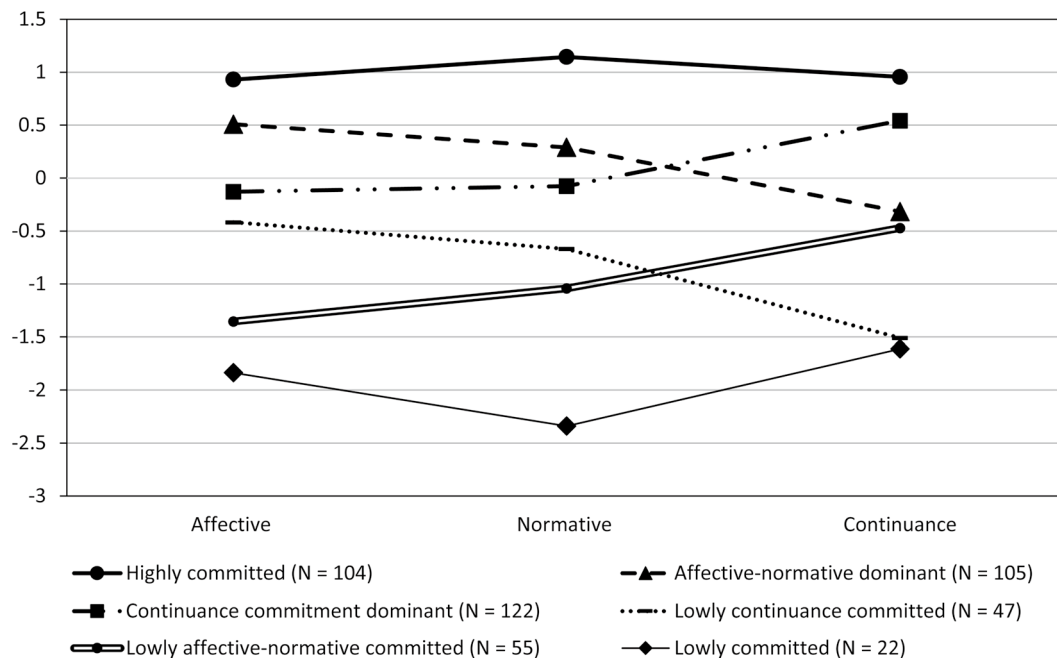

Fig. 1. Profiles of organizational commitment.

Table 1. Comparison of variables by commitment profiles

	1. HC N=104		2. AC-NC N=105		3. CC N=122		4. LCC N=47		5. LAC-LNC N=55		6. LC N=22		Total N=455		F (χ²)	Post hoc
	Mean (N)	SD (%)	Mean (N)	SD (%)	Mean (N)	SD (%)	Mean (N)	SD (%)	Mean (N)	SD (%)	Mean (N)	SD (%)	Mean (N)	SD (%)		
Gender[†]																
Men	(9)	(8.7)	(12)	(11.4)	(5)	(4.1)	(4)	(8.5)	(6)	(10.9)	(2)	(9.1)	(38)	(8.4)	(4.68)	
Women	(95)	(91.3)	(93)	(88.6)	(117)	(95.9)	(43)	(91.5)	(49)	(89.1)	(20)	(90.9)	(417)	(91.6)		
Age	33.9	9.6	34.3	10.8	33.8	9.6	30.5	6.6	30.6	7.3	33.9	9.2	33.2	9.0	2.29*	n.a.
Career length (yr)	9.5	8.3	10.0	9.7	9.6	8.4	6.6	5.3	7.3	5.2	9.2	6.7	9.0	8.1	1.85	
Managerial position[†]																
Yes	(19)	(18.4)	(22)	(21.2)	(21)	(17.2)	(1)	(2.1)	(7)	(12.7)	(3)	(13.6)	(73)	(16.1)	(9.85)	
No	(84)	(81.6)	(82)	(78.8)	(101)	(82.8)	(46)	(97.9)	(48)	(87.3)	(19)	(86.4)	(380)	(83.9)		
Unknown	(1)		(1)		(0)		(0)		(0)		(0)		(2)			
Affective commitment	22.9	2.4	21.2	2.1	18.7	1.8	17.6	2.8	13.9	2.4	12.0	3.2	19.2	3.9	179.24***	1>2>3,4>5>6
Normative commitment	22.0	2.0	18.7	1.7	17.2	1.8	14.9	2.1	13.5	2.0	8.5	2.1	17.5	3.9	291.06***	1>2>3>4>5>6
Continuance commitment	21.5	2.4	16.5	1.6	19.9	2.0	11.8	2.3	15.9	2.5	11.4	3.0	17.7	3.9	209.94***	1>3>2,5>4,6
Work engagement	29.5	9.2	27.1	7.7	22.7	8.1	21.1	8.3	18.6	7.1	14.3	8.2	24.2	9.2	25.36***	1,2>3,4>6; 3>5
Psychological distress	4.9	4.9	4.7	5.1	6.3	5.3	4.8	5.1	7.2	6.0	7.2	5.7	5.6	5.3	3.07*	
Turnover intention[†]																
Yes	(41)	(39.4)	(43)	(41.0)	(72)	(59.0)	(30)	(63.8)	(45)	(81.8)	(21)	(95.5)	(252)	(55.4)	(51.43)***	n.a.
No	(63)	(60.6)	(62)	(59.0)	(50)	(41.0)	(17)	(36.2)	(10)	(18.2)	(1)	(4.5)	(203)	(44.6)		

HC: Highly committed; AC-NC: Affective-normative commitment dominant; CC: Continuance commitment dominant; LCC: Lowly continuance committed; LAC-LNC: Lowly affective-normative committed; LC: Lowly committed. [†]χ² test; *$p<0.05$; **$p<0.01$; ***$p<0.001$.

dominant (AC-NC)", "Continuance commitment dominant (CC)", "Lowly continuance committed (LCC)", "Lowly affective-normative committed (LAC-LNC)", and "Lowly committed (LC)". This result indicates that, among Meyer and Herscovitch's profiles[16], the HC, AC-NC, CC, and LC groups were reproduced in this study. The LAC-LNC and LCC groups, replicated in this study, have not been replicated in previous studies[10, 11]. Table 1 shows the one-way analysis of variance and chi-square test results.

In this study, the AC or NC dominant groups were not replicated independently; however, mixed groups of AC and NC were replicated. This study's results support Somers' argument—for strong service elements related to nursing work and AC and NC, nurses would be unable to separate emotional attachment from obligation[11].

There was no significant difference in WE between the HC and AC-NC groups, and approximately 40% of nurses intended to leave their jobs in both the HC and AC-NC groups. Additionally, the AC-NC group scored significantly higher than the LAC-LNC group on WE. Furthermore, the LAC-LNC group had a much higher percentage of nurses with turnover intention (81.8%) than the AC-NC group (41.0%). These results indicate the significance of AC and NC in helping nurses work actively or energetically and preventing turnover.

The motivational process of the Job Demand-Resources model indicated that WE influenced AC[17]. The framework of this model applies to Japanese nurses[18]. In other words, for Japanese nurses, organizational measures to improve WE would increase not only AC but also NC, and contribute to the prevention of nurse turnover.

The CC and LCC groups' results were compared to examine CC's influence on organizational commitment's overall effects. No clear differences were found for any variable, except organizational commitment (Table 1). The same result was also found when comparing the HC and AC-NC groups. Meyer and Herscovitch indicated that, for high AC with CC, CC reduces AC's positive impact[16]. However, the comparison between the CC and LCC groups or the HC and AC-NC groups showed that CC had no inhibitory effect on WE, psychological distress, or turnover intention. Given the weak positive correlation between CC and WE ($r=0.25$, $p<0.01$), the negative effects of increased CC on nurses' human resource management may not be worth noting.

This study has several limitations. First, because it was a cross-sectional survey, the process of profile formation could not be described. Second, as this study used turnover intention, future studies should investigate workers who left their jobs. Additionally, this study focused on the nursing profession; similar studies in other occupations may present different profiles[10]. It is likely that CC has a negative effect in other occupations[8], which can be clarified by future studies on other professionals.

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