Testing the relationship between three-component organizational/occupational commitment and organizational/occupational turnover intention using a non-recursive model

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Abstract

This study explored the relationship between three-component organizational/occupational commitment and organizational/occupational turnover intention, and the reciprocal relationship between organizational and occupational turnover intention with a non-recursive model in collectivist cultural settings. We selected 177 nursing staffs out of 30 hospitals in Taiwan as our sample, and structural equation modelling analysis was conducted to test our hypotheses. The results showed that normative organizational commitment negatively correlates with organizational turnover intention most strongly, and affective occupational commitment negatively correlates with occupational turnover intention most strongly. Moreover, organizational turnover intention plays a mediating role in the relationship between normative organizational commitment and occupational turnover intention, while occupational turnover intention mediates the relationship between affective occupational commitment and organizational turnover intention. In particular, the reciprocal relationship exists between organizational and occupational turnover intention. Practical implications and suggestions for future research were also discussed.
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1. Introduction

In recent years, the subject of commitment has continued to be a major focus of research (Meyer & Herscovitch, 2001; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). Commitment in the workplace can take various forms and different foci, such as *organizational commitment* (e.g., Mathieu & Zajac, 1990; Meyer & Allen, 1991) and *occupational commitment* (e.g., Blau & Lunz, 1998; Meyer, Allen, & Smith, 1993). Organizational commitment is a psychological state that binds the individual to the *organization* (Allen & Meyer, 1990), while occupational commitment is one's belief in and acceptance of the values of a chosen *occupation* (Meyer et al., 1993). Research on both forms of commitment have shown that employees with higher organizational or occupational commitment engage in organizational citizen behavior, resulting in better performance, and lower turnover intentions, that are beneficial to the organization (Chen & Francesco, 2003; Cheng & Stockdale, 2003; Jaros, 1997).

In Meyer et al.'s (1993) model, both organizational and occupational commitment can be conceptualized as consisting of three components: *affective*, *continuance*, and *normative*. Literature on these models have pointed out that different and independent mechanisms link employee commitment to attitudes and behaviors (e.g., Lee, Carswell, & Allen, 2000; Meyer et al., 2002). Unfortunately, these models have generally been studied separately (e.g., Irving, Coleman, & Cooper, 1997; Powell & Meyer, 2004; Snape & Redman, 2003) and thus, further research needs to integrate them and to develop a more complete theoretical domain (Lee et al., 2000).

Organizational and occupational turnover intentions have been identified as important outcome variables in the commitment literature, which feed into the process of career change and mobility (Blau, 2000; Blau, Tatum, & Ward-Cook, 2003). Hackett, Lapierre, and Hausdorf (2001) argued that organizational commitment influences occupational turnover intention through organizational turnover intention. While Lee et al. (2000) found occupational commitment affects organizational turnover intention through occupational turnover intention. Considering these perspectives, a reciprocal relationship may exist between organizational and occupational turnover intention. However, this remains untested (Hackett et al., 2001).

This study extends Meyer et al.'s (1993) three-component commitment model in three ways. First, we integrated the three-component models of organizational and occupational commitment into one study, thus we could simultaneously test the relative strength of influence of both organizational and occupational commitment on consequences. Secondly, we examined the possible reciprocal relationship between organizational and occupational turnover intention to address the lacuna described above. Lastly, this study was conducted in Taiwan where collectivism is a cultural norm (Hofstede, 1997). This not only helped us to compare the results to other studies conducted in a collectivist culture (e.g., Chen & Francesco, 2003; Wasti, 2003), but also provided empirical evidence about the generalizability of the three-component occupational commitment model outside North America. Hopefully, we can echo

recent suggestions from Meyer et al. (2002) and Lee et al. (2000), and further explore the boundaries of three-component commitment model (Whetten, 1989).

1.1. The relationship between the three-component organizational commitment and organizational turnover intention

Based on a review of the literature, Meyer and Allen (1991) proposed a three-component model of organizational commitment. The first component, *affective organizational commitment* (AOC), refers to an emotional attachment to the organization (Allen & Meyer, 1990). The second component is *continuance organizational commitment* (COC), which refers to commitment based on the costs associated with leaving the organization (Hackett, Bycio, & Hausdorf, 1994). The third component, *normative organizational commitment* (NOC), refers to an employee's feeling of obligation to stay with the organization (Allen & Meyer, 1990). Meyer and Allen (1991) argued that employees could experience all three forms of organizational commitment in varying degrees, thus by understanding all three-components together the nature of an employee's relationship with an organization should be clearer.

Most studies point out that organizational commitment is a powerful predictor of organizational turnover intention (Mathieu & Zajac, 1990; Meyer & Allen, 1997; Powell & Meyer, 2004). According to the meta-analysis conducted by Meyer et al. (2002), all three components of organizational commitment were negatively correlated to organizational turnover intention, with AOC correlating most strongly, followed by NOC and COC. Owing to attitudinal and emotional attachment to the organization, it is believed that AOC is the strongest predictor within the three components of organizational turnover intention (Loi, Ngo, & Foley, 2006; Meyer & Herscovitch, 2001; Meyer et al., 2002).

However, when taking culture into consideration, AOC develops more specifically in relation to work experiences within a particular organization, and stresses personal identity and emotional involvement with the organization (Chen & Francesco, 2003). Thus AOC is established as playing an important role in individualistic cultures (Randall, 1993; Wasti, 2003). In contrast, collectivist cultures tend to encourage behaviors according to generally accepted norms and obligations designed to maintain social harmony among the in-group members (e.g., the family or friends) (Hofstede, 1997; Wasti, 2003). Because NOC develops out of socialization experiences within the family, cultural or the organizational environment (Meyer & Allen, 1991), the salience of collectivist values may strengthen the feeling of moral obligation towards any significant other, including an organization (Vandenberghe, 2003). When employees' felt obligation toward their employer is strengthened by the cultural values of loyalty and receipt of benefits, employees are more willing to stay with the organization and repay their perceived debt (Vandenberghe, 2003). Therefore, we propose that the negative relationship between NOC and intention to leave the organization will be strongest in collectivist countries.

Hypothesis 1. The relationship between the three-component organizational commitment and organizational turnover intention is negative, with NOC correlating most strongly, followed by AOC and COC.

1.2. The relationship between the three-component occupational commitment and occupational turnover intention

According to Meyer et al. (1993), occupational commitment is composed of three components. The first component, *affective occupational commitment* (APC[1]), refers to a person's desire to remain in the occupational role (Meyer & Allen, 1997). APC develops based on emotional identification with the work goals and positive occupational experiences (Lee et al., 2000). The second component is *continuance occupational commitment* (CPC). CPC refers to individuals who stay in their occupation due to the high costs of leaving (Irving et al., 1997). CPC may develop as individuals invest substantial resources in their occupation that would be lost upon exit (e.g., professional expertise or high occupational status) (Hall, Smith, & Langfield-Smith, 2005). The third component, *normative occupational commitment* (NPC), refers to the employee's feeling of obligation towards an occupation (Irving et al., 1997) and may develop as a result of pressure to remain in the occupation from colleagues, friends or the family (Hall et al., 2005).

Past studies also found that the occupational commitment revealed a negative relationship with occupational turnover intention (Blau et al., 2003; Cunningham & Sagas, 2004; Lee et al., 2000). Meyer and Herscovitch (2001), considered the varying influences within the model and proposed that APC can involve a stronger emotional attachment to the occupation than either NPC or CPC. Snape and Redman (2003) also supported this view and argued that, "commitment based purely on the sense of obligation may last only until the obligation is discharged, and commitment based solely on cost avoidance may be relinquished once an alternative means of cost avoidance is found" (Snape & Redman, 2003: 153). However, in Asian countries, though the salience of collectivist values may strengthen individuals' NPC through pressure from colleagues, friends or the family, employees' decision for choosing their occupation is more strongly related to their own personal values and propensities that are less likely influenced by normative pressures (Hofstede, 1997). Therefore, we believe that when individuals choose to leave their occupation, they will consider emotional attachment, identification, and shared values towards their occupation more than obligations and costs. Thus, we propose:

Hypothesis 2. The relationship between the three-component occupational commitment and occupational turnover intention is negative, with APC correlating most strongly, followed by NPC and CPC.

1.3. The relationship between the three-component organizational/occupational commitment and organizational/occupational turnover intention using a non-recursive model

Recent studies have consistently shown a negative relationship between organizational commitment and organizational turnover intention (Cheng & Stockdale, 2003; Ko, Price, & Mueller, 1997; Meyer et al., 2002), and a negative relationship between occupational commitment and occupational turnover intention (Blau et al., 2003; Hall et al., 2005; Snape & Redman, 2003). Nevertheless, some scholars suggest that organizational turnover

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[1] We used the upper case letter P, in the occupational commitment acronyms, to avoid confusion with "O" used to signify the organizational forms of commitment. The using of upper case P means the occu"p"ational while not "p"rofessional.

intention mediates the relationship between organizational commitment and occupational turnover intention (Hackett et al., 2001), and that occupational turnover intention mediates the relationship between occupational commitment and organizational turnover intention (Lee et al., 2000). Therefore, the theoretical rationalization behind these arguments is worthy of further discussion.

When employees work in an organization that provides an environment to promote the ideals and goals of a specific occupation, their organizational and occupational commitment will be heightened subsequently (Ayree & Tan, 1992; Cohen, 2000). Therefore, negative work experiences (e.g., violating employees' ideals relative to the occupation) may decrease employees' commitment and attachment to their occupation. If employees decide to leave their organization due to negative work experiences, they may also develop the intention to leave their occupation. For example, Hackett et al. (2001) argued that if a similar work condition exists throughout health institutions in the same region, nurses' intention to leave the organization would probably force them to quit their occupation altogether because of no better alternatives. (Roberts, Coulson, & Chonko, 1999) state that even in less professional occupations (e.g., salesperson), this is also likely to be the case. Thus:

Hypothesis 3. Organizational turnover intention mediates the relationship between the three-component organizational commitment and occupational turnover intention.

Occupational commitment plays an important role in the turnover process because it relates to the attraction of a specific occupation as a lifelong career choice (Gardner, 1992). If employees experience the lack of occupational commitment, they may decide to leave both their occupation and their organization since they cannot start a new occupation in the same organization (Lee et al., 2000). As mentioned above, when nurses decide to leave their occupation, it is unlikely for them to apply their skills toward another type of job in their hospital. Thus occupational turnover intention would also force them to leave their organization (Hackett et al., 2001).

In the case of nonprofessionals (e.g., salespersons), who decide to leave their current occupation for a new one, they may need to leave their organization to acquire the required training or background experiences. It is also hard for nonprofessionals to apply their skills to another type of job in current organization. Hence occupational turnover intention would also force them to leave their organization. Thus:

Hypothesis 4. Occupational turnover intention mediates the relationship between the three-component occupational commitment and organizational turnover intention.

As previously mentioned, a reciprocal causal relationship between organizational and occupational turnover intention may exist (Hackett et al., 2001). That is, employees may experience both organizational and occupational turnover intention at the same time, and organizational and occupational turnover intention may affect each other simultaneously as well. Moreover, the reciprocal relationship between organizational and occupational turnover intention may also be raised by the job context and situational factor simultaneously. For example, the greater employees disillusionment with their job, the more likely that they will leave their current occupation and organization simultaneously (Blau, 2000). Mowday and McDade (1980) also found certain critical incidents (e.g., heavy work loadings, poor environments or benefits, lack of supervisory support) may destroy employees' future job expectations. Thus, they

would choose to leave that organization and be more inclined to change their organization immediately.

Considering situational factors, Levinson (1996) suggested that individuals, early in their career, may have great motivation to explore a satisfactory work or life structure. Therefore, individuals are more likely to leave their present organization and occupation in their early career stages. Moreover, individuals may also leave both the organization and occupation at the same time because of their spouse has found employment elsewhere or they have more children at home (Abelson, 1987; Lee & Maurer, 1999). Thus, we propose:

Hypothesis 5. There are reciprocal relationships between organizational turnover intention and occupational turnover intention.

2. Method

2.1. Participants and procedures

In order to minimize the effects of other exogenous factors (e.g., hospital size or performance), participants for this study were selected from 30 hospitals that participated in the annual hospital accreditation in Taiwan. The criteria used in accreditation helped to ensure that participating hospitals were similar in their size and performance (e.g., the ratio of patients to nurses, the ratio of patients to doctors).

We contacted these hospitals by telephone to introduce the purpose of this study, invite participation (usually from administrative staff) and to obtain their address. According to the survey conducted by Department of Health, Executive Yuan (2004) in Taiwan, the average number of nurses per hospital was 31.66. With the consideration of the cost and willingness to cooperate, we mailed 10 questionnaires to each hospital. The questionnaires were distributed to formal accredited nurses by an administrator. A total of 300 questionnaires were mailed, and 177 valid questionnaires were returned that resulted in a valid response rate of 59 percent.

Participants were predominantly female (95 percent) and approximately 80 percent of were 20–30 years old (mean = 29.88). Most participants (63 percent) graduated from junior colleges of nursing. Seventy-three percent of the respondents had less than five years organizational tenure, while 16 percent were in the 6–10 year range (mean = 5.89). Fifty percent of the respondents had less than five years occupational tenure, while 36 percent had the 6–10 years (mean = 8.20).

2.2. Measures

2.2.1. Organizational commitment

Organizational commitment was measured with Meyer et al. (1993) scales, which includes six items for each of the three components. The original version was translated into Chinese by the first and second authors, and then translated back from Chinese to English by two bilingual foreign language experts. Finally, the translation was reviewed for appropriateness by five organizational behavior experts.

Responses were made on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*). Cronbach's alpha was .82 for AOC, .70 for COC, and .74 for NOC. The reliability score for

each component was similar to previous studies (e.g., Cheng & Stockdale, 2003; Ko et al., 1997; Lee, Allen, Meyer, & Rhee, 2001; Meyer et al., 1993).

2.2.2. Occupational commitment

Occupational commitment was measured with Meyer et al.'s (1993) three-component (APC, CPC, and NPC) occupational commitment scales, with six items for each component. The same translation procedure was followed.

Responses were made on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*). Cronbach's alpha was .86 for APC, .71 for CPC, and .84 for NPC, and reliability score for each component compared well to previous studies (e.g., Irving et al., 1997; Meyer et al., 1993; Snape & Redman, 2003).

2.2.3. Organizational turnover intention

Organizational turnover intention was slightly revised from Meyer et al.'s (1993) three-item scale (e.g., I frequently thought about leaving my current employer). Using a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*). Cronbach's alpha for this scale was .86.

2.2.4. Occupational turnover intention

Occupational turnover intention was also slightly revised from Meyer et al.'s (1993) three-item scale (e.g., I frequently thought about getting out of nursing) and used the same 7-point scale. Cronbach's alpha for this scale was .88.

2.2.5. The dimensionality of measurements

To evaluate the dimensionality of the commitment model, we conducted confirmatory factor analysis (CFA) with maximum likelihood estimation using LISREL 8.54 (Jöreskog & D. Sörbom, 1999). To examine the dimensionality of the organizational commitment model, we followed Chen and Francesco's (2003) and Lee et al.'s (2000) suggestions to compare the fitness between the null model, one-factor model (all items loaded on one factor), two-factor model (AOC and NOC items on one factor, COC items on the other), three-factor model (AOC, COC, and NOC), and four-factor model (with COC separated into two sub-dimensions: low perceived alternatives and high personal sacrifice). The three-factor model (hypothesized model) fitted the data better than other models (GFI = .87, AGFI = .83, RMSEA = .08, NNFI = .92, and CFI = .94). χ^2 difference tests also indicated that the three-factor model resulted in a statistically significant decrement than other models. Hence we concluded that the three-factor model was the best fit in our study.

Dimensionality of the occupational commitment model was examined following Snape and Redman (2003) approach to estimate the fitness between the null model, one-factor model (all items loaded on one factor), the two-factor model (APC and NPC items on one factor, CPC items on the other), and the three-factor model (APC, CPC, and NPC). The three-factor model (hypothesized model) fitted the data better than other models (GFI = .87, AGFI = .82, RMSEA = .09, NNFI = .90, and CFI = .92). χ^2 difference tests indicated that the three-factor model resulted in a statistically significant decrement and therefore it was considered most suited to this study.

2.2.6. Discriminant validity between measurements

Since the sub-components of the model of organizational and occupational commitment develop through a similar psychological mechanism, the discriminant validity

between the two models should be taken into consideration. To estimate the discriminant validity, we followed Korsgaard and Roberson's (1995) approach to conduct CFA to compare the fitness between the one-factor model (all items loaded on one factor), the four-factor model (AOC and APC, COC and CPC, NOC and NPC, organizational, and occupational turnover intention items on one another separately), and an eight-factor model (AOC, COC, NOC, APC, CPC, NPC, organizational turnover intention, and occupational turnover intention). The CFA results for the three models shows the eight-factor model (hypothesized model) fit the data better ($\chi^2[791] = 1740.2$, $\chi^2/df = 2.2$; $df = $ RMSEA $= .09$, NNFI $= .92$, and CFI $= .93$) than the one-factor models ($\chi^2[819] = 4293.1$, $\chi^2/df = 5.3$; $df = $ RMSEA $= .16$, NNFI $= .74$, and CFI $= .81$) and the four-factor model ($\chi^2[813] = 3542.3$, $\chi^2/df = 4.4$; $df = $ RMSEA $= .14$, NNFI $= .84$, and CFI $= .84$).

2.2.7. Control variables

According to Reilly and Orsak (1991), Blau (2000) and Lee et al. (2000), *organizational tenure* and *occupational tenure* can simultaneously affect the development of organizational/occupational commitment and organizational/occupational turnover intention. Therefore, both were included as control variables.

2.3. Data analysis

We also used LISREL 8.54 with maximum likelihood estimation to test our hypotheses. Following Anderson and Gerbing (1988) suggestion, we adopted the two-stage approach for testing the structural equation model. We adopted the item parcelling method (Hau & Marsh, 2004) to form a single manifest indicator for each of AOC, COC, NOC, APC, CPC, and NPC that enabled rigorous testing of the structural equation model (Scott, Bishop, & Chen, 2003). To account for random measurement error of parcelled scales, we followed Bollen's (1989) suggestion to set the random measurement error of each scale equal to the quantity one minus the reliability. The exogenous variables were again assumed to correlate.

Lastly, we referred to Meyer, Allen, and Gellatly's (1990) and Somers's (1993) approaches to test the reciprocal relationship between organizational and occupational turnover intention with a non-recursive model. We followed Wong and Law's (1999) proposed criteria to identify the non-recursive model with cross-sectional data. The first, when a non-recursive model with only two reciprocal structural paths between two endogenous variables is underidentified. Thus exogenous variables with structural paths pointing to these endogenous variables are needed for model identification (Berry, 1984), and these exogenous variables are usually "instrumental" variables that predict only one of the endogenous variables. The second criterion is the effects of each instrumental variable on each endogenous variable should be similar (Schaubroeck, 1990). Otherwise the endogenous variable with the weaker instrumental variable will have a relatively larger disturbance term that may bias the results. In our study, we tested two parallel models of three-component organizational and occupational commitment; hence the second criterion was also met.

The third criterion is that the proper analysis of non-recursive models should allow the disturbance terms of two endogenous variables to correlate. Schaubroeck (1990) also argued that the residual variation of both reciprocally related variables would be due to its corresponding variable. Because they cause each other in turn, the residual of both

predictor equations will be correlated. Failure to estimate this correlation may bias the result. Thus, as Wong and Law (1999) proposed we correlated the disturbance terms of organizational and occupational turnover intention.

Although Hunter and Gerbing (1982) argued that non-recursive approaches are not suitable for treatment in a cross-sectional model, others have argued to the contrary (e.g., Finkel, 1995; Mathieu, 1991; Meyer et al., 1990). Without knowing the exact duration of the time-lag between personal psychological attitudes, the cross-sectional non-recursive model may be a viable representation of reality (Wong & Law, 1999; 71) and thus is appropriate to test the reciprocal relationship between organizational and occupational turnover intention.

3. Results

3.1. Hypothesis testing

Table 1 presents the means, standard deviations, reliabilities, and correlations of the study variables. Correlations between AOC and NOC were positively significant ($r = .66$, $p < .05$), while the correlations between AOC and COC, and NOC and COC were not statistically significant. On the other hand, the correlations among APC, CPC and NPC were all positively significant ($r = .22$ to $.68$, $p < .05$), and organizational turnover intention was also positively related to occupational turnover intention ($r = .56$, $p < .05$). Moreover, AOC and NOC negatively correlated with organizational turnover intention ($r = -.53, -.58$; $p < .05$), while COC did not. As for the correlations between occupational commitment and occupational turnover intention, all three-component of occupational commitment had negative correlations with occupational turnover intentions ($r = -.28$ to $-.63$, $p < .05$).

We tested our hypotheses with the structural equation model and it provided an adequate fit to the data ($\chi^2[37] = 102.65$; $\chi^2/df = 2.7$; GFI $= .91$, AGFI $= .86$, RMSEA $= .09$, NNFI $= .94$, and CFI $= .96$). After controlling the effects of organizational/occupational

Table 1
Means, standard deviations, reliabilities, and correlations among variables

Variable	M	SD	1	2	3	4	5	6	7	8
1. AOC	4.33	1.04	**.82**							
2. COC	4.07	.98	−.10	**.70**						
3. NOC	4.02	.97	.66*	.10	**.74**					
4. APC	5.15	1.07	.48*	.06	.42*	**.86**				
5. CPC	4.17	.78	.08	.58*	.15*	.22*	**.71**			
6. NPC	4.44	1.09	.48*	.12	.44*	.68*	.34*	**.84**		
7. Organizational turnover intention	4.15	1.40	−.53*	−.04	−.58*	−.34*	−.13	−.34*	**.86**	
8. Occupational turnover intention	3.65	1.50	−.50*	−.02	−.40*	−.63*	−.28*	−.58*	.56*	**.88**

Note:
(1) * $p < .05$.
(2) Cronbach's alpha coefficients are presented in boldface on the diagonal.
(3) AOC, affective organizational commitment; COC, continuance organizational commitment; NOC, normative organizational commitment. APC, affective occupational commitment; CPC, continuance occupational commitment; NPC, normative occupational commitment.

tenure, the coefficients of all hypothesized paths were similar to Fig. 1 (i.e., results of the direction and significance test of all paths were unchanged). However, the model with control variables did not fit the data well ($\chi^2[59] = 502.33$; $\chi^2/df = 8.5$; GFI = .71, AGFI = .51, RMSEA = .21, NNFI = .69, and CFI = .80). Since the results were unchanged between these two models, for model parsimony and simplicity, we presented the hypothesized model without including control variables.

To test Hypothesis 1, we constrained path coefficients between AOC, COC and NOC to organizational turnover intention to be equal simultaneously and, then compared the χ^2 differences after freely estimating the path coefficient of AOC, COC and NOC separately to organizational turnover intention. Chi-squared difference tests showed the free estimation of path NOC to organizational turnover intention resulted in the largest χ^2 decrement ($\triangle\chi^2 = 92$, $\triangle df = 1$), followed by AOC to organizational turnover intention ($\triangle\chi^2 = 27.13$, $\triangle df = 1$) and COC to organizational turnover intention ($\triangle\chi^2 = 3.2$, $\triangle df = 1$). Thus, Hypothesis 1 was supported.

As for Hypothesis 2, we also fixed path coefficients between APC, CPC, and NPC to occupational turnover intention to be equal simultaneously, then compared the χ^2 differences after freely estimating the path coefficient of APC, CPC, and NPC separately to occupational turnover intention. Chi-squared difference tests showed that the free estimation of path APC to occupational turnover intention resulted in the largest χ^2 decrement ($\triangle\chi^2 = 6.3$, $\triangle df = 1$), followed by NPC to occupational turnover intention ($\triangle\chi^2 = 4.7$, $\triangle df = 1$), and CPC to occupational turnover intention ($\triangle\chi^2 = 1.27$, $\triangle df = 1$). Hence Hypothesis 2 was also supported.

For Hypothesis 3, the paths linking AOC and COC to organizational turnover intention were not significant. The path from NOC to organizational turnover intention was
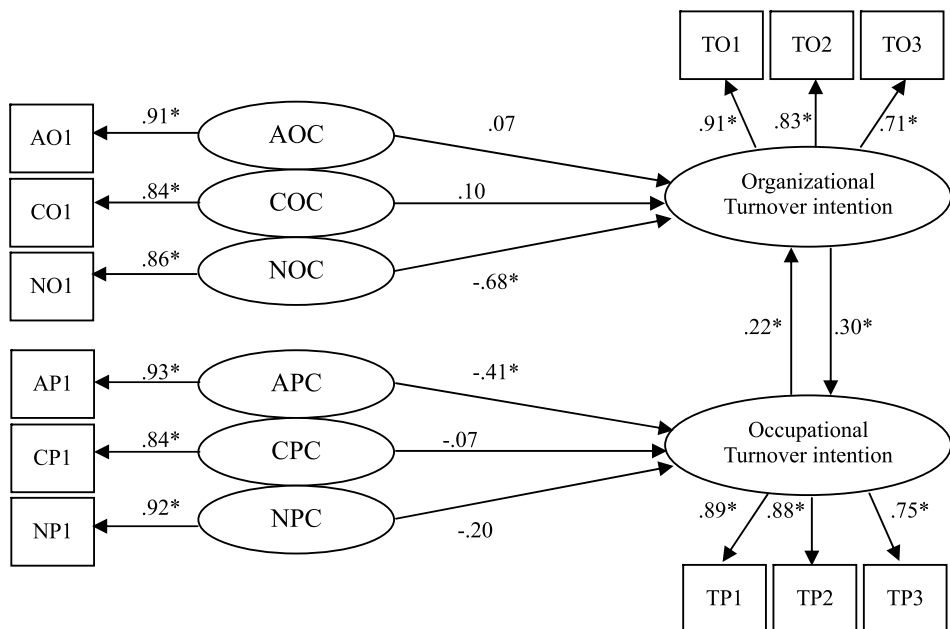

Fig. 1. Non-recursive model with maximum likelihood estimates (standardized). Note. Correlations among the exogenous variables are not included. $^*p < .05$.

negatively significant and the path from organizational turnover intention to occupational turnover intention was positively significant. Taken together, organizational turnover intention completely mediated the linkage between NOC and occupational turnover intention. Thus, Hypothesis 3 was partially supported.

Hypothesis 4 proposed that occupational turnover intention would mediate the relationship between the three-component occupational commitment and organizational turnover intention. In Fig. 1, although the paths linking CPC and NPC to occupational turnover intention were not significant, the path from APC to occupational turnover intention was negatively significant and the path from occupational turnover intention to organizational turnover intention was positively significant. Overall, occupational turnover intention completely mediated the linkage between APC and organizational turnover intention. Hypothesis 4 was also partially supported. To test the reciprocal relationship between organizational and occupational turnover intention, the non-recursive structural equation model was built (Fig. 1). Both the effects of organizational on occupational turnover intention and occupational on organizational turnover intention were positively significant. Therefore, Hypothesis 5 was supported.

4. Discussion

4.1. The effects of the three-component organizational and occupational commitment on organizational and occupational turnover intention

As anticipated, NOC negatively correlated with organizational turnover intention most strongly among the three components of organizational commitment. Though this result is inconsistent with previous studies conducted in North America (e.g., Jaros, 1997; Meyer & Herscovitch, 2001; Meyer et al., 2002; Somers, 1995), it reflects the salience of NOC in a collectivist culture (Vandenberghe, 2003). Social interaction in Chinese society aims to maintain interpersonal relationships and harmony thus loyalty and obligation to the in-group members are essential (Hofstede, 1997; Hwang, 1987). Within such a context, it is not surprising that NOC plays a decisive role in organizational turnover intention.

APC was the strongest predictor to occupational turnover intention among the three-component occupational commitment. It appears that when employees want to engage in a course of action due to emotional identification with, attachment to, or shared values with their occupation, they are less sensitive to perceived costs or obligations that potentially delimit their behaviors (Meyer & Herscovitch, 2001). Another perspective is that, personal decisions about occupation are less likely influenced by cultural differences (Hofstede, 1997). When employees decide to leave or stay with a specific occupation, their decisions would reflect their emotional identification and attachment to the occupation rather than normative pressures.

In addition, COC was not significantly related to organizational turnover intention (see similarly Meyer et al., 1993; Ko et al., 1997 & Wasti, 2003). Some scholars have suggested that COC might consist of two sub-dimensions: low perceived alternatives (LoAlt) and high personal sacrifice (HiSac) (Iverson & Buttigieg, 1999; McGee & Ford, 1987; Powell & Meyer, 2004). Meyer et al. (2002) argued that HiSac might have a stronger negative relationship with organizational turnover intention than LoAlt. This could be the reason why COC was not related to organizational turnover intention.

As for the non-significant relationship between CPC and occupational turnover intention, Blau (2003) proposed that CPC can be further split into two sub-dimensions: accumulated costs and limited alternatives. That is, employees may choose to stay in their occupation because of perceiving specific costs for leaving (e.g., time, money, and training) or perceiving lack of options for pursuing a new occupation (Blau, 2003).

4.2. The mediating role of organizational and occupational turnover intention

Our results also reveal organizational turnover intention plays a mediating role in the relationship between NOC and occupational turnover intention. Although Carmeli and Gefen (2005) argued that occupational turnover intention would not be influenced by perception of organizational context, our findings suggest the contrary (NOC can indirectly reduce employee occupational turnover intention). This is consistent with Hackett et al.'s (2001) argument that occupational turnover intention was determined by both occupational commitment directly and organizational commitment indirectly.

On the other hand, occupational turnover intention mediated the relationship between APC and organizational turnover intention. Though previous studies have stressed the importance of organizational commitment to employee's intention to leave the organization, our findings highlighted the role of occupational turnover intention in the organizational turnover process. Cohen (2000) also proposed that an individual's intention to stay at a specific organization might result from identification with his/her occupation, especially for professional employees. That is, professional employees with higher levels of APC tend to choose their occupation as a lifelong career option, thus this is a particularly important factor in the decision to leave the occupation or the organization (Lee et al., 2000).

4.3. The reciprocal relationship between organizational and occupational turnover intention

The main purpose of this study was to examine the reciprocal relationship between organizational and occupational turnover intention that was proposed but untested by Hackett et al. (2001). As expected, findings supported the reciprocal relationship between organizational and occupational turnover intention. Thus, our findings answered some questions that unsolved in Hackett et al.'s (2001) study.

Although this hypothesized reciprocal relationship was not examined directly in earlier studies, Blau (1989) found occupational turnover intention contributed to organizational turnover intention and actual turnover. Lee et al. (2000) also pointed out that occupational turnover intention was still significantly and positively related to organizational turnover intention. The inconclusive nature of these findings has been answered in our study that demonstrates a reciprocal relationship exists between organizational and occupational turnover intention.

Our findings also revealed that organizational turnover intention positively affects occupational turnover intention. Blau (2000) argued that the investment in one's occupation usually makes the intention to leave a much harder decision than leaving an organization. However, if employees choose to leave their organizations many times during a period, it is likely that their occupational turnover intention will grow. When employees cannot find an organization that fits their needs or values, they may eventually choose to quit their current occupation.

4.4. Practical implications

Our findings point out that NOC and APC are key components in both organizational and occupational turnover. Human resource managers can design more socialization programs or mentor systems for newcomers, and providing more organizational support (e.g., supervisory support, extensive training) to enhance employees' positive socialization experiences (Whitener, 2001; Wiener, 1982). Through the internalization of normative pressures, the socialization experience can lead employees to feel more obligations and reciprocity toward the organization.

It is also useful to adopt policies that enhance employees' occupational identities (Lee et al., 2000). These include: encouraging occupational activities (e.g., attending conferences or publishing papers), providing valued rewards (e.g., better benefits), promoting their occupations, or sponsoring training opportunities to shape employees' emotional attachment to the occupation (Blau et al., 2003).

Furthermore, employees' intentions to leave the organization and occupation are reciprocally related then managers must take both aspects into consideration at the same time. Cohen (2000) and Hackett et al. (2001) pointed out that both types of turnover intention are determined by job involvement. This can be enhanced by redesigning the job content (e.g., more job autonomy, feedback, job resources or social support) (Houkes, Janssen, de Jonge, & Bakker, 2003) and the work time, and shaping organizational vision or images (McNeese-Smith, 2001).

4.5. Limitations and future research

A few limitations of this study should be noted. First, all variables in this study were measured with self-reports and from the same source, thus the problem of common method variance may have influenced the results (Podsakoff & Organ, 1986). During questionnaire development we adopted the psychological separation method by (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) to reduce this problem. That is, we excluded the introduction of each variable, and tried to make it appear that the measurement of both the predictor and the criterion variable were not connected.

After data collection, we adopted Harman's one factor test (Podsakoff & Organ, 1986). According to Podsakoff and Organ (1986), common method variance problems exist if a single factor emerges from the factor analysis and accounts for most of the variance. After a principal component exploratory factor analysis, a total of eight factors emerged, with the largest factor explaining only 28 percent. Additionally, we used CFA (see Korsgaard & Roberson, 1995) to test the fit of a one-factor model (all items in this study were loaded on a common factor) and an eight-factor model (AOC, COC, NOC, APC, CPC, NPC, organizational turnover intention, and occupational turnover intention). We found that the eight-factor model ($\chi^2/df = 2.2$; GFI = .74, AGFI = .70, RMSEA = .08, NNFI = .92, and CFI = .93) had a better fit than the one-factor model ($\chi^2/df = 5.3$; GFI = .51, AGFI = .45, RMSEA = .16, NNFI = .76, and CFI = .81). Thus, common method variance was not a serious problem in this study.

The second limitation is the difficulty of causal inference caused by uncertainties about the exact time-lag between major variables in this study. Although Wong and Law (1999) found the cross-sectional non-recursive model could adequately capture the time-lagged causal relationships, we suggested future research to use a longitudinal or

time-lagged design to replicate and compare with the relationships reported in our study.

The last limitation is the generalizability of our findings. We chose nurses as the sample and conducted this study in a collectivist culture, limiting the generalizability. However, nurses belong an occupation with higher professionalism, for this reason, it is suitable to examine the three-component organizational and occupational commitment model with this sample (e.g., Meyer et al., 1993). Meyer et al. (2002) and Allen (2003) appealed for more studies to examine the three-component commitment model beyond North American cultures. Therefore, this study fits with this call for further research and contrast with earlier studies particularly since they chose nurses as well (Meyer et al., 1993 & Hackett et al., 2001).

To expand the current findings, there are some possible moderators for future research. For example, in Lee et al.'s (2000) meta-analysis, they found the negative relationship between occupational commitment and occupational turnover intention was stronger for professional than nonprofessional employees. In nonprofessional occupations, employees are more likely to leave their occupation because of relatively lower accumulated costs within the occupation, lower professional identity or family support. They may also be choosing to change their occupation after failing to find a satisfactory organization. Thus, for nonprofessional employees, the negative relationship between occupational commitment and occupational turnover intention would be weaker, while the reciprocal relationship between organizational and occupational turnover intention may be stronger.

Another possible moderator is cultural differences. Although many studies have examined the three-component commitment model beyond North American cultural contexts, most of these studies were conducted in collectivist cultures (e.g., Chen & Francesco, 2003; Cheng & Stockdale, 2003; Ko et al., 1997; Wasti, 2003). From Hofstede (1997) viewpoint, employees in high uncertainty avoidance societies (e.g., Greece, Portugal, Belgium, and France) express their intention to stay with the organization for a long-term career. The concept of uncertainty avoidance means they shun ambiguous situations and look for precise alternatives. Within this cultural context, there are many established formal rules or informal norms controlling the rights and duties of employees. Thus we propose that the effects of continuance and normative commitment would be stronger in this context.

Career stage is also a possible moderator. In different career stages, individuals have unique demands and needs within their careers, jobs, and organizations (Noe, Steffy, & Barber, 1988). Reilly and Orsak (1991) argued COC and NOC would be stronger in the latter period of individual's career stage (e.g., maintenance stage) due to accumulated organizational investments, few alternative jobs, and a sense of obligation/loyalty to their current organization. Given these perspectives, it would be useful to compare the strength of the reciprocal relationship between organizational and occupational turnover intention in different career stages.

The interactive effects of the three components within organizational and occupational commitment are worthy of further investigation (Meyer et al., 2002). From Reilly and Orsak's (1991) and Meyer and Herscovitch's (2001) perspectives, affective commitment is accompanied by a mind-set of desire. Thus, affectively committed employees view their jobs as encompassing a wider range of behaviors (e.g., job performance, extra-role behaviors) and want to engage in these behaviors because of their emotional attachment and identification. Consequently, we proposed that employees with a higher degree of AOC

and APC would express stronger positive behaviors toward the organizational and less organizational or occupational turnover intentions.

In conclusion, this research sheds light on the importance of NOC in a collectivist culture, pointing out the important role of APC in the turnover process, and highlighting the key position of organizational and occupational turnover intention in the turnover process. Future research should explore additional moderators to further classify the boundary conditions of the three-component organizational and occupational commitment models.

Acknowledgments

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