Pakistan Journal of Psychological Research, 2007, Vol. 22, Nos. 1-2, 1-21

An Empirical Assessment of Organizational Commitment Measures

Saadia Tayyab
National Education Assessment System
Ministry of Education
Pakistan

This study examined the structural properties of two organizational commitment measures, the Organizational Commitment Questionnaire (OCQ; Mowday, Porter, & Steers, 1982) and Organizational Commitment Scales (OCS; Meyer & Allen, 1991) that included Affective Commitment Scale (ACS), Normative Commitment Scale (NCS), and Continuance Commitment Scale (CCS). The results provided evidence for the reliability and uni-dimensionality of OCQ. Results of Exploratory as well as Confirmatory Factor Analysis (comparing four competing models) revealed that the OCQ converged with ACS, diverged from CCS, which was relatively independent of the ACS and NCS, but had a positive relationship with NCS.

Keywords: organizational commitment, factor analysis, pathway analysis, assessment

Tremendous research effort has been devoted to understand the nature, dimensions, and antecedents of organizational commitment during the last three decades spawning hundreds of articles, tomes, and books in the academic and practitioner literature as well as the popular press. However, most of these studies have been conducted in North-American and western contexts. In fact, the study of this construct did not enter its international phase until 1990s. Randall (1993) listed among the papers in English, twenty-three studies conducted outside the U.S. and remarked that twelve of them concerned field of investigation located in Canada. A systematic investigation of the meaning and antecedents of organizational commitment across culture is indeed essential to assess the generalizability of the unique findings. In fact, a clear understanding of organizational commitment construct has been hampered by some ambiguity in the definition and measurement of the

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Correspondence concerning this article should be addressed to Saadia Tayyab, National Education Assessment System (NEAS), Ministry of Education, H-9, Islamabad, Pakistan. E-mail: sadiatayyab@yahoo.com

construct itself. Morrow (1983) noted over twenty-five commitment related concepts. The variety of perspectives regarding the most appropriate definition of organizational commitment has led to some disagreement about how the construct should be measured. An assortment of scales exists that have been designed to measure organizational commitment (e.g., Balfour & Wechsler, 1996; Cook & Wall, 1980; Meyer & Allen, 1991; Mowday, Steers, & Porter, 1979; O'Reilly & Chatman, 1986).

The limited research that compared and contrasted the available measures (see, for example, Becker, 1992; Charles-Pauvers & Caroline, 2004; Cohen, 1996; Kackmar, Carlson, & Brymer, 1999; Magazine, Williams, & Williams, 1996; Mathews & Shepherd, 2002; Vandenberg, Self, & Seo, 1994) noted a great deal of overlap in the items that constituted these scales. Infact, Vandenberg et al. (1994) noted that the identification component of O'Reilly and Chatman's (1986) measure of organizational commitment contributed nothing beyond what Mowday, Porter, and Steer's (1982) scale captures. However, due to lack of comparative research on the available scales, such conclusions can not be drawn with respect to more recently developed measures of organizational commitment.

Two of the most widely used definitions of organizational commitment include those of Mowday et al.'s (1979) who defined organizational commitment as "the relative strength of an individual's identification with and involvement in a particular organization" (p. 27). Whereas, Meyer and Allen defined *affective commitment* as "the employee's emotional attachment to, identification with, and involvement in the organization" (1991, p. 61). Not coincidently, two of the most widely used measures of organizational commitment are the Organizational Commitment Questionnaire (OCQ; Mowday et al., 1982) and the Affective Commitment Scale (ACS; Meyer & Allen, 1991). A number of researchers have published work involving a construct labeled affective commitment that they subsequently measured using the OCQ (e.g., Simons & Roberson, 2003; Wayne, Shore, & Liden, 1997), the ACS (e.g., Cropanzano, Rupp, & Byrne, 2003), or items taken from both scales (e.g., Rhoades, Eisenberger, & Armeli, 2001).

There is certainly nothing inherently wrong with this practice as long as the constructs' definitions are the same and the scales used to measure them are valid. Furthermore, an examination of the definitions of the constructs strongly suggests that they are indeed the same. The question we address here is the validity of the measures. Specifically, if the Mowday et al.'s (1979) and the Meyer and Allen's (1991)

definitions of organizational commitment and affective commitment, respectively, are the same and if both the OCQ and the ACS are valid scales measuring the same construct.

Theoretical Debate: Dimensionality (OCQ)

The OCQ has dominated the organizational commitment literature for more than thirty years as the 'market leader'. The original OCQ is a 15-items, seven-point Likert-type scale with six reverse scored items. According to Mowday et al. (1982), the mean scores on the questionnaire represent a summary indicator of commitment for the most working populations paralleling the behavioral, cognitive, and affective components of attitudes. Despite conceptual distinction among these dimensions, they maintain that the OCQ measures a single construct. Other studies also concluded that the OCQ is uni-dimensional (Dunham, Grube, & Castaneda, 1994; Ferris & Aranya, 1983; Mathieu & Zajac, 1990; Morrow, 1993). Allen and Meyer (1990) believed that the definition and the instrument developed by Porter, Steers, Mowday, and Boulian (1974) primarily measures affective attachment to the organization.

There have been theoretical and empirical debates against the uni-dimensionality of the OCQ. For instance, Magazine et al., (1996) found three different factors that paralleled the three characteristics of the OCQ suggested by Mowday et al. (1979). However, Angle and Perry launched the first debate on this issue in 1981. They made the distinction between *value commitment*, the Etzioni's (1961) *calculative commitment*, and a third factor which was later on eliminated due to its instability called *moral commitment*. These results got some support from other studies distinguishing affective and calculative commitment (Cohen & Gattiker, 1992; Tetrick & Farkas, 1988).

Although Tett and Meyer (1993) and Akhtar and Tan (1994) confirmed the multidimensionality of the OCQ, they questioned the meaning of calculative commitment. Similarly, Benkhoff (1997) showed that the OCQ comprised of three dimensions stated in the Mowday et al's (1979) definition. Some other researchers also suggest that the OCQ is multidimensional. Most of these studies have identified a two-factor structure (Kellie & Shadur, 2000; Yousef, 2003). Empirical results that conclude that the long form of the OCQ is multidimensional also indicate that its factorial structure is unstable (Commeiras & Fournier, 2001; Kellie & Shadur, 2000).

Mathieu and Zajac (1990) in their meta-analysis, along with Tetrick and Farkas (1988), Meyer and Allen (1991), Morrow (1993), and McElroy, Morrow, Crum, and Dooley (1995) recommended use of the short form because the items focus on measuring only an attitudinal construct rather than behavioral intent (Commerias & Fournier, 2001). Occasionally, over the years, researchers have suggested that OCQ may not be homogenous (Angle & Perry; 1981; Koslowsky, Caspy, & Lazar, 1990).

A vast body of previous research has examined turnover intentions as a predictor of organizational commitment and most of the studies have supported a negative relationship between organizational commitment and intentions to turnover. For example, Mathieu and Zajac's (1990) meta-analysis concluded that organizational commitment has a negative relationship with turnover intentions than actual turnover behaviors. The fact that organizational commitment was more strongly related to turnover intentions is consistent with the following three component model underlying turnover: (i) Aspects of the work environment result in employees' affective responses to the organization (such as organizational commitment). (ii) Affective responses to the organization influence behavioral intentions (such as intention to seek alternative jobs). (iii) Behavioral intentions, along with other phenomena, which result in actual turnover behavior (Ketchand & Strawser, 2001).

Subsequent research by Cohen (1993), Hackett, Bycio, and Hausdorf (1994), and Meyer and Allen (1997) reported that multidimensional organizational commitment had a negative impact on turnover intentions. Balfour and Wechsler (1996) also reported a negative relationship between intention to turnover and all the three components of organizational commitment. Since, Meyer and Allen (1991) proposed their three-component model of commitment, over 40 studies have been published utilizing their multidimensional paradigm to estimate the effects of commitment on job turnover intentions.

The Use of OCQ and ACS Interchangeably

A number of studies have compared the OCQ and the ACS and have found consistently high correlation between the scales (see, for example, Allen & Meyer, 1990, 1996; Shore & Tetrick, 1991). These findings, as well as the similar definitions associated with the OCQ and the ACS, led a number of researchers assume that the OCQ, especially

its short form, and the ACS measure the same construct. However, the evidence is insufficient to confirm this assumption. Few studies addressed the issue of examining the extent to which the OCQ and ACS both measure the concept of affective commitment. For example, Shore and Tetrick (1991) claimed that OCQ and ACS are not distinguishable. However, their research question did not address the empirical congruence of the two scales nor did their methodology allow a conclusion about empirical congruence to be reached. For instance, they did not examine the scales at the item level. Rather, the manifest indicators in their model consisted of parcels in which several individual items were combined to form one indicator. While, this technique is valid in some cases and for some purposes, it sacrifices information at the item level that is useful in determining whether two sets of items measure the same construct.

If both scales measure the same construct, then we would expect one of two conditions to hold when the items are subjected to an Exploratory Factor Analysis (EFA). In the one case, one factor should emerge with all items loading on it. In the other case, if there are multiple dimensions within the construct, multiple factors should emerge with significant factor loading on items from both the scales such that the high loadings confirm the dimensions of the construct. Given the divergence between conceptual and empirical application of the OCQ, the present study investigates the factorial structure of the OCQ and its discriminant validity with the Meyer and Allen's OCS. This study aimed at determining the dimensionality of the OCQ and examining the discriminant validity of OCQ with Meyer and Allen's (1991) OCS based on previous research debate regarding the convergence and divergence of these scales.

Method

Sample

This study is based on data obtained from 500 full time employees of a government owned telecommunication corporation located in Islamabad with regional offices in other major cities of Pakistan. Upon approval by the management, 650 questionnaires were distributed. The usable number of questionnaires returned was 500, yielding a response rate of 77%. Of these 500 employees, 82% were men. The average age was about 35 years. 37% and 35% employees had acquired graduation and masters level education, respectively. 10% respondents had completed high school and there were around

17% respondents with intermediate level education. 45% employees represented middle management (e.g., administration and human resource personnel), about 20% belonged to low management (e.g., assistants, upper/lower division clerks, steno-typists, junior assistants). Approximately 18% were technical personnel (e.g., engineers, technicians, radio operators, and telecommunication officers). 6% were from accounts section, and 12% of the sample held supervisory positions. About 38% of the sample had completed 11 to 15 years organizational tenure while 4.5% employees had spent 30 and more years with their organization. About 83% participants were married.

Instruments

Organizational Commitment Questionnaire (OCQ). Mowday et al.'s (1982) OCQ was used to meet the purpose of the present study. Nine items were selected excluding negatively worded items in order to reduce the length of the questionnaire and to increase the psychometric stability of the questionnaire. A sample items from this scale included "I talk up this organization to my friends as a great organization to work for" and "I would accept almost any kind of job assignment in order to keep working for this organization". It was a five-point Likert-type scale. The internal consistency reliability of this questionnaire has been reported as .93. Shah, Kaur, and Haq (1992) reported .90 value of alpha coefficient for an employed sample. Lam (1998) reported moderate (.59) test-retest reliability of this scale. Mean scores reported by him were 4.2 and 4.4 with *SD* 1.3 and 1.2 and alpha coefficients .82 and .84 at test-retest, respectively.

Organizational Commitment Scales (OCS). Meyer and Allen's (1991) three-component OCS yielded separate scores for three forms of commitment, *affective, continuance,* and *normative.* The Affective Commitment Scale (ACS) was uni-dimensional scale which comprised of eight items and assessed the emotional attachment and feelings of belongingness to the organization. Continuance Commitment Scale (CCS) had eight items and assessed the costs associated with leaving the organization and availability of alternatives. The Normative Commitment Scale (NCS) also had eight items and reflected the level of obligation an individual feels to continue with the organization because it is the right thing to do. It was a 5-point response scale with anchors ranging from *strongly agree* to *strongly disagree.* Previous research has reported alpha

reliabilities of the three scales to range between .74 and .83, and the inter-scale correlations to be .49 ($p < ..05$) for ACS and NCS, .22 ($p < .05$) for CCS and NCS, and .12 ($p < .05$) for ACS and NCS. Tayyab and Riaz (2004) reported Cronbach alpha of these scales as .74, .78, and .52 for ACS, CCS, and NCS, respectively (for a detailed review on measurement properties of these scales see Allen & Meyer, 1996).

Turnover Intentions (TI). The degree to which the respondents were considering leaving their present organization was measured with 3-item scale developed by Laudau and Hammer (as cited in Cook, Hepworth, Wall, & Warr, 1981). This scale is in existence since last four decades and has been used extensively in research on turnover intentions as a global measure of intentions to quit. The five point response scale ranges from 1 anchoring *strongly agree* to 5 anchoring *strongly disagree*, in which the higher scores reflect higher turnover intentions. Score range is from 1 to 15. Overall internal consistency reliability coefficient has been reported as .86 by Cook et al.

Procedure

Data collection involved a number of visits to the data collection site. Approximately one week prior to the administration of questionnaires, meetings with the top management were scheduled to explain the nature and objectives of the study. These meetings were supplemented by several partial days of on-site observations to develop an understanding of the organization's functioning, physical lay out, and so forth, and to build a rapport with the employees. During the first two visits, the General Manager Administration, HR Manager, and Director Coordination were interviewed to gain a better understanding of the organizational structure, functioning, and participants. During the following visits, the author was present along with two organizational administrators to distribute and collect the questionnaire. This was deemed essential after learning from the previous experience that collecting quality research data from employees often requires the presence of researcher to ensure staid and accurate responding. Based on the list of all employees in different sections of the organization, participants were identified in advance by systematic sampling. All questionnaires were accompanied by a cover letter that addressed anonymity and confidentiality issues; respondents were informed that questionnaires

were for academic research use only and that no one in the organization would see their responses. To ensure this the questionnaires were collected immediately after their completion. After completion of data collection, data were subjected to the following statistical analyses.

Structural analyses of the scales. A series of competing models were developed to test the extent to which the OCQ converged with ACS and NCS and diverged from CCS. A total of five models were computed:

1. A null model (Model 1) proposing that none of the variables under consideration are related to each other.
2. A one-factor general model (Model 2) incorporating all OCQ and OCS items in one factor.
3. A two-factor model (Model 3) incorporating OCQ, affective and normative commitment items on one factor and continuance commitment items on the second factor.
4. A three-factor model (Model 4) merging OCQ and affective commitment items on one factor and continuance and normative commitment items on two separate factors.
5. A four-factor model (Model 5) separating OCQ items from three OCS.

Results

The intercorrelations among the study variables were determined first. An Exploratory Factor Analysis (EFA) was conducted next to determine the emergent factorial structure of the measures and to test the dimensionality of the OCQ. The emergent factor structure was then confirmed with a Confirmatory Factors Analysis (CFA) to establish the construct validity of the measures.

Reliabilities and Intercorrelations

The internal consistency reliabilities were acceptable for all scales. Coefficient alphas were .86, .72, .72, .76, and .71 for OCQ, ACS, CCS, NCS, and TI, respectively. The correlations among the OCQ, the three OCS, and TI are presented in Table 1.

Table 1

Intercorrelations Between OCQ, Scales of OCS and TI (N = 500)

Measures	1	2	3	4	5
1. OCQ	-	.65***	.30***	.62***	-.12*
2. ACS		-	.32***	.45***	-.19*
3. CCS			-	.28**	.08
4. NCS				-	-.23**
5. TI					-

Note. OCQ = Organizational Commitment Questionnaire; ACS = Affective Commitment Scale; CCS = Continuance Commitment Scale; NCS = Normative Commitment Scale; TI = Turnover Intentions.

***$p < .00$. **$p < .01$. *$p < .05$.

As expected, OCQ and ACS were highly correlated ($r = .65$, $p < .00$). In addition, the magnitude and direction of relationship between OCQ and other scales parallel those of Allen and Meyer's (1990) dimensions. However, the relationship between ACS and CCS was found to be moderate and positive ($r = .32$, $p < .00$). Consistent with several previous research findings, the relationship between ACS and NCS was high ($r = .45$, $p < .00$). Similarly, OCQ exhibited a moderate positive relationship with CCS ($r = .30$, $p < .00$) and a high positive relationship with NCS ($r = .62$, $p < .00$). Turnover intentions showed significant negative correlation with OCQ, ACS, and NCS, however, the relationship between CCS and TI was negligible.

Dimensionality of the OCQ

An EFA using Principal Component Analysis with varimax rotation was conducted. Only factors with eigen values above 1 and more were extracted. This resulted in a one factor solution explaining 50.13% of the total variance. The resulting one factor solution was then subjected to CFA using LISREL 8.3 to establish whether OCQ was uni-dimensional. An EFA and CFA was also performed on combined OCQ and ACS items, since interest was in common variance among the factors and expected factors to correlate. The analysis produced a simple structure in which all ACS items loaded cleanly on one factor with OCQ explaining 49.34 % of the total variance (Table 2). Further examination of this model indicated that all the path coefficients for this model were significant and positive.

Table 2

Factor Loadings and Descriptive Statistics for the One Factor Combined OCQ and ACS Items (N = 500)

Item no.	Items	EFA	CFA	*M*	*SD*
OCQ					
1	I am willing to put in a great deal of effort beyond that normally expected to help this organization be successful.	.50	.57	3.32	1.30
2	I talk up of this organization to my friends as a great organization to work for.	.62	.60	4.35	.85
3	I would accept almost any kind of job assignment, in order to keep working for this organization.	.81	.79	4.01	1.01
4	I feel that my values and organization's values are very similar.	.63	.65	3.41	1.05
5	I am proud to tell others that I am a part of this organization.	.77	.77	4.02	1.08
6	This organization really inspires the very best in me in the way of job performance.	.69	.68	3.33	0.97
7	I am extremely glad that I chose this organization to work for over others I was considering at the time I joined.	.74	.74	3.91	1.15
8	I really care about the fate of this organization.	.72	.69	4.33	0.91
9	For me this is the best of all possible organizations for which to work.	.83	.80	4.21	0.88
ACS					
1	I would be very happy to spend the rest of my career with this organization.	.46	.41	3.85	1.11
2	I enjoy discussing my organization with people outside.	.66	.60	3.85	1.12
3	I really feel as if this organization's problems are my own.	.49	.64	2.40	1.26
4	I think that I could easily become attached to another organization.	.56	.43	2.37	1.17
5	I don't feel like part of the family at my organization.	.59	.53	4.02	1.11

Continued...

Item no.	Items	EFA	CFA	*M*	*SD*
6	I do not feel emotionally attached to this organization.	.42	.48	2.30	1.11
7	This organization has a great deal of personal meaning for me.	.49	.48	3.52	1.23
8	I don't feel a strong sense of belonging to this Organization.	.58	.56	2.40	1.13

Note. EFA = Exploratory Factor Analysis; CFA = Confirmatory Factor Analysis; OCQ = Organizational Commitment Questionnaire; ACS = Affective Commitment Scale.

The results (Table 3) suggested that OCQ and ACS are similar and measure the same construct. For comparison purposes, Angle and Perry's (1981) two-factor model (i.e., value commitment and commitment to stay) was also estimated. The value commitment model included items 1, 2, 4, 5, 6, and 8. The commitment to stay factor included items 3, 7, and 9 of the OCQ. Results indicated that uni-dimensional model was the better one. Results did not generally support the existence of either value commitment or commitment to stay factor and confirmed the uni-dimensionality of the OCQ.

Table 3

Fit Statistics for the One and Two Factors OCQ (N = 500)

Model	$\chi 2$	*df*	RMR	GFI	CFI	NNFI
1. 1-Factor	112.85	26	.06	.90	.90	.80
2. 2-Factors	243.16	36	.07	.79	.73	.67

Note. RMR = Root Mean Square Residual; GFI = Goodness of Fit Index; CFI = Comparative Fit Index; NNFI = Non-normed Fit Index.

Combined Scales CFA

To investigate the convergent and discriminant validity between the OCQ and three component OCS, a series of competing models was tested using CFA, since it allows researchers to dictate constraints consistent with theoretically based hypothesized structure and to test statistically, how well the covariance among the observed variables is explained given these theoretical constraints. Given the strong existing theoretical base for organizational commitment, for the present study, this method of analysis was deemed appropriate for examining the

underlying structure of this construct. Five competing models were compared. For each CFA covariance matrix using maximum likelihood estimation was used to assess if the observed covariance matrix fit the hypothesized model. Table 4 presents the overall fit indices of the proposed models.

Table 4

Fit Indices of the Competing Models for OCQ and OCS (N = 500)

	Models	$\chi 2$	*df*	RMR	GFI	CFI	NNFI	$\chi 2$/ *df*
1.	Null	6206.27	325	-	-	-	-	-
2.	1-Factor (OCQ/AC/CC/ NC)	779.61	289	.08	.75	.75	.72	2.69
3.	2-Factors (OCQ/AC/NC+ CC)	965.54	298	.09	.69	.66	.63	2.24
4.	3-Factors (OCQ/AC+NC+CC)	516.55	270	.06	.90	.87	.85	1.91
5.	4-Factors (OCQ+AC+CC+NC)	906.45	293	.09	.70	.68	.65	3.09

Note. RMR = Root Mean Square Residual; GFI = Goodness of Fit Index; CFI = Comparative Fit Index; NNFI = Non-normed Fit Index.

The results of CFA (Table 4) revealed that the three-factor model (Model 4) is significantly different from other models with the highest value of GFI (.90). The same model also came out with the lowest chi-square and *df* values (χ^2 = 516.55, *df* = 270). The χ^2/df ratio of this model was also the lowest (1.91) as compared to the remaining models, indicating the adequate fit of this model. All of the standardized path coefficients of this model were greater than .40. Thus, the three-factor model (Model 4) appears to be the best choice since it is subject to fewer constraints. This provides reasonable evidence that the OCQ converges with the ACS.

Parameter Estimates

An examination of the path estimates, *t*-values, standard error, and R^2 revealed that these parameters are statistically significant and important to the model. Each of the path estimates had an expected sign and ranged from .43 to .88. All of the *t*-values were greater than 2.00, while the R^2 ranged between .36 - .74. All standard errors were found to be between .01 and .09 (Table 5).

Table 5

Parameter Estimates for the Best-fitting Model (N = 500)

Causal Links	Parameters	Path Estimates	Standard Errors (δ)	t-values	Squared Multiple Correlations (R^2)
OCQ					
→1	λ1	.56	.03	7.25	.58
→2	λ2	.49	.08	6.67	.74
→3	λ3	.60	.03	11.04	.57
→4	λ4	.68	.09	7.59	.60
→5	λ5	.77	.06	11.66	.58
→6	λ6	.63	.06	9.75	.45
→7	λ7	.64	.08	10.75	.51
→8	λ8	.79	.09	10.1	.48
→9	λ 9	.74	.06	10.90	.53
ACS					
→1	λ1	.49	.01	8.48	.40
→2	λ2	.61	.08	10.0	.46
→3	λ3	.54	.09	8.30	.38
→4	λ4	.53	.08	7.78	.36
→5	λ5	.60	.08	7.52	.38
→6	λ6	.47	.08	7.90	.46
→7	λ7	.58	.08	7.65	.36
→8	λ8	.43	.09	12.78	.56
CCS					
→1	λ1	.83	.08	7.90	.48
→2	λ2	.60	.09	6.93	.47
→3	λ3	.76	.07	9.47	.45
→4	λ4	.79	.03	10.76	.57
→5	λ5	.54	.08	7.87	.53
→6	λ6	.48	.03	10.24	.56
→7	λ7	.52	.09	7.90	.52
→8	λ8	.62	.07	8.70	.56
NCS					
→1	λ1	.46	.06	7.10	.58
→2	λ2	.55	.06	7.10	.48
→3	λ 3	.88	.08	6.93	.57
→4	λ4	.48	.09	7.98	.53
→5	λ5	.48	.06	6.63	.46

Continued...

Causal Links	Parameters	Path Estimates	Standard Errors (δ)	*t*-values	Squared Multiple Correlations (R^2)
NCS					
→6	λ6	.76	.08	7.53	.42
→7	λ 7	.66	.09	6.59	.52
→8	λ 8	.56	.07	7.74	.49

Note. OCQ = Organizational Commitment Questionnaire; ACS = Affective Commitment Scale; CCS = Continuance Commitment Scale; NCS = Normative Commitment Scale.

Relationship with Turnover Intentions (TI)

Having established the dimensionality of the OCQ, a structural model based on *Figure 1* was estimated using path analysis to further establish the discriminant validity. The model included OCQ, ACS, CCS, and NCS items and intentions to turnover was used as a criterion variable since this variable has been found to be an important consequence that is expected to vary with each aspect of commitment (Meyer & Allen, 1997) and has been found to be consistently correlated with OCQ, affective and normative commitment but less so to continuance commitment. The results indicated that the fit statistics for the model are very good (GFI = .98, RMR < .08).

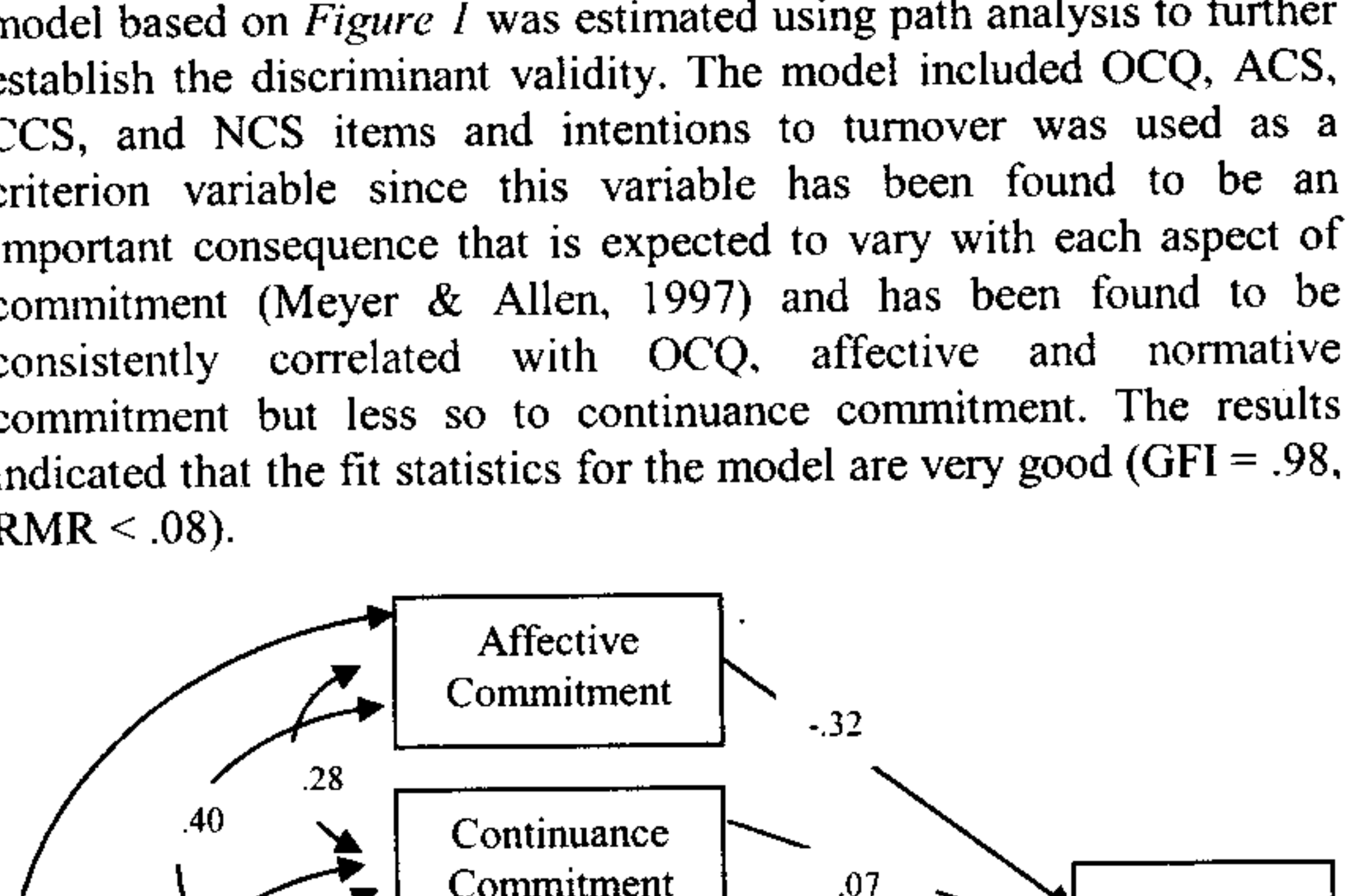

Figure 1. Path coefficients for the structural model.

Without any exception all the standardized path coefficients were significant and in expected direction. However, in affecting turnover intentions, the affective and normative factors seem to dominate at -.37 for normative, -.32 for affective commitment, and -.29 for OCQ, respectively. This finding seems to indicate that individuals who are attached to their organizations through emotions or feelings of obligation are less likely to have intentions to quit. The path from continuance commitment to turnover intentions was nonsignificant. Thus, contrary to previous research findings, continuance commitment appeared to be relatively independent of the other dimensions of organizational commitment.

Discussion

The present study was conducted with two goals. Firstly, the factorial structure of two organizational commitment measures was investigated independently and then collectively. Secondly, the relationship of these scales with turnover intentions was investigated to establish the discriminant validity of the measures. Based on previous research findings that scores on ACS and OCQ were highly correlated and that ACS and OCQ items cross-loaded heavily on one another, this study hypothesized that OCQ will converge with ACS and diverge from CCS and NCS. Results indicated CCS to be relatively independent, however, there was a high positive correlation between OCQ, ACS, and NCS, consistent with correlation between ACS and NCS as noted by Allen and Meyer (1990) and Tayyab and Riaz (2004).

This correlation seems to suggest that, although the desire to remain with an organization is synonymous with the feeling of obligation to do so, there is a tendency for these feelings to occur, that is, employees who are emotionally attached to their organization also feel obligated to remain with the organization. It is, however, unclear at this point whether there is a causal ordering in the development of these two dimensions. One might speculate that as moral obligations are internalized to form personal norms, they influence individual's feelings about what they want to do. Alternatively, to justify behaving in accord with their desires, individuals may accept that their actions are morally right.

Although, the relationship between continuance and normative commitment was also significant, the magnitude of correlation suggests that the two scales share little variance. Results of CFA comparing five models further revealed that OCQ converges with

ACS and diverges from CCS. Although several instances of overlap between the OCQ and ACS could be observed from the findings of this study, there are two most glaring examples of redundancy between the two scales. In the first, a high correlation between the two scales was observed, both the scales measured an affective attachment to the organization factor that was responsible for much of the overlap among scales in the study. In addition, all items of the ACS loaded clearly on one factor with OCQ, when simultaneous factor analysis was performed on combined items of both the scales.

Previous theoretical and empirical evaluation of both ACS and OCQ also indicates that both the measures are very similar and measure the same construct (e.g., Allen & Meyer, 1990; Cohen, 1996; Dunham et al., 1994; Meyer & Allen, 1984; Randall, Fedor, & Longenecker, 1990). However, it does not imply that OCQ could be replaced with the ACS, because the psychometric properties of the OCQ have been well documented in the vast body of research on commitment. Furthermore, consistent with past research, the pattern of relationship between TI and OCQ is similar to affective commitment. Hence, these factors have emerged as the most important determinants of TI.

Randall et al. (1990) also reported similar relationship between both organizational commitment questionnaire, affective commitment, and four sets of behavioral outcomes including TI. Therefore, the continued use of the OCQ would facilitate comparison across studies. The findings of present study on dimensionality of the OCQ confirmed the uni-dimensionality of the short form as intended by its developers. These results are thus comparable to the ones drawn by Tetrick and Farkas (1988), Mathieu and Zajac (1990), and Cramer (1996) who pointed out the merits of short form of OCQ as a tool for measurement of affective commitment. Thus, it can be used to test hypotheses regarding antecedents and consequences of affective commitment without inhibitions that the relationships obtained merely reflect overlap in the content of commitment and behavioral measures.

The present study also confirmed the relatively good reliability of OCQ. The Cronbach alpha of the OCQ was .86. Given that the OCQ first appeared in 1974 (Porter et al., 1974), it is no longer possible to claim that this tool is still in an exploratory phase. Thus, we can legitimately contend that the OCQ now bears sufficient reliability. The findings of present study regarding the pattern of relationship between organizational commitment and TI further established the validity of the scales by demonstrating that both

ACS and OCQ bear similar pattern of relationship with the criterion variable TI.

This study has extended confirmatory factor analytic methodology for assessing the convergent validity of the multidimensional organizational commitment constructs. Future research is needed in this area. For example, correlational analysis with theoretically relevant variables in addition to CFA may yield more accurate and reliable results and firm conclusions. Similarly, it might be worthwhile to carryout a study over a span of time to capture the dynamic nature of this construct. Finally, some limitations of the study may be noted. Perhaps one fundamental limitation of this study is that item level analysis could not be applied. Therefore, future research should examine OCQ and ACS at an item level to determine the extent of overlap or uniqueness among the items of the two scales.

For a thorough examination of the item content, items could thus be subjected to Q-sort, to empirically test the chosen items across a variety of samples. Empirical evidence may come from examining the modification indices with respect to correlated residuals. This may turn up some redundancy among the items. Secondly, the fact that the employees' sample studied included only one organization poses the problem of external validity, even though the results obtained here are consistent with those of other studies by organizational behavior researchers. It would be worthwhile to conduct similar analyses on diverse categories of samples and organizations.

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Received August 05, 2006.

Revision received April 25, 2007.