

Affective, Continuance, and Normative Commitment to the Organization: A Meta-analysis of Antecedents, Correlates, and Consequences

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The authors conducted meta-analyses to assess (a) relations among affective, continuance, and normative commitment to the organization and (b) relations between the three forms of commitment and variables identified as their antecedents, correlates, and consequences in Meyer and Allen's (1991) Three-Component Model. They found that the three forms of commitment are related yet distinguishable from one another as well as from job satisfaction, job involvement, and occupational commitment. Affective and continuance commitment generally correlated as expected with their hypothesized antecedent variables; no unique antecedents of normative commitment were identified. Also, as expected, all three forms of commitment related negatively to withdrawal cognition and turnover, and affective commitment had the strongest and most favorable correlations with organization-relevant (attendance, performance, and organizational citizenship behavior) and employee-relevant (stress and work-family conflict) outcomes. Normative commitment was also associated with desirable outcomes, albeit not as strongly. Continuance commitment was unrelated, or related negatively, to these outcomes. Comparisons of studies conducted within and outside North America revealed considerable similarity yet suggested that more systematic primary research concerning cultural differences is warranted. © 2002 Elsevier Science (USA)

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It has been a decade since Mathieu and Zajac (1990) conducted meta-analyses of the antecedents, correlates, and consequences of organizational commitment. At that time, researchers were making a distinction between two forms of commitment: attitudinal (e.g., Mowday, Steers, & Porter, 1979) and calculative (e.g., Becker, 1960). Mathieu and Zajac (1990) included *form* of commitment as a potential moderator in their analyses and found some differences. They questioned, however, whether existing instruments could be appropriately categorized as

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measures of attitudinal or calculative commitment. Moreover, they noted that researchers were beginning to identify other forms of commitment, but there were too few studies available to consider these within the moderator analyses.

During the 1990s, organizational commitment continued to be a major focus of research. There was also considerable attention given to theory development. It is now well recognized, for example, that commitment is a multidimensional construct and that the antecedents, correlates, and consequences of commitment vary across dimensions. The purpose of the current meta-analytic investigation was to estimate and compare the strength of true correlations between variables identified in Meyer and Allen's (1991, 1997; see also Allen & Meyer, 1990) Three-Component Model of organizational commitment. This model overlaps considerably with other multidimensional conceptualizations (e.g., Jaros, Jermier, Koehler, & Sincich, 1993; Mayer & Schoorman, 1992). However, because there are some important differences in the measures derived from these multidimensional models (see Meyer & Herscovitch, 2001), we concentrated only on research using the Affective (ACS), Continuance (CCS), and Normative (NCS) Commitment Scales (Allen & Meyer, 1990; Meyer, Allen, & Smith, 1993), which were constructed specifically to evaluate the Three-Component Model. We provide a brief overview of the model below, followed by a summary of our objectives.

Meyer and Allen's Three-Component Model of Commitment

Meyer and Allen (1984) initially proposed that a distinction be made between *affective* and *continuance* commitment, with affective commitment denoting an emotional attachment to, identification with, and involvement in the organization and continuance commitment denoting the perceived costs associated with leaving the organization. Allen and Meyer (1990) later suggested a third distinguishable component of commitment, *normative* commitment, which reflects a perceived obligation to remain in the organization. Figure 1 presents a summary of the hypothesized links between the three components of commitment and variables considered to be their antecedents, correlates, and consequences (for more detail, see Meyer & Allen, 1991, 1997).

On the left side of Fig. 1, we identify the general categories of variables hypothesized to be involved in the development of affective, continuance, and normative commitment. On the right side of the figure are variables considered to be consequences of commitment. An important rationale for the development of the Three-Component Model was the belief that, although all three forms of commitment relate negatively to turnover, they relate differently to measures of other work-relevant behaviors (e.g., attendance, in-role performance, organizational citizenship behavior [OCB]). More specifically, affective commitment is expected to have the strongest positive relation, followed by normative commitment; continuance commitment is expected to be unrelated, or related negatively, to these desirable work behaviors.

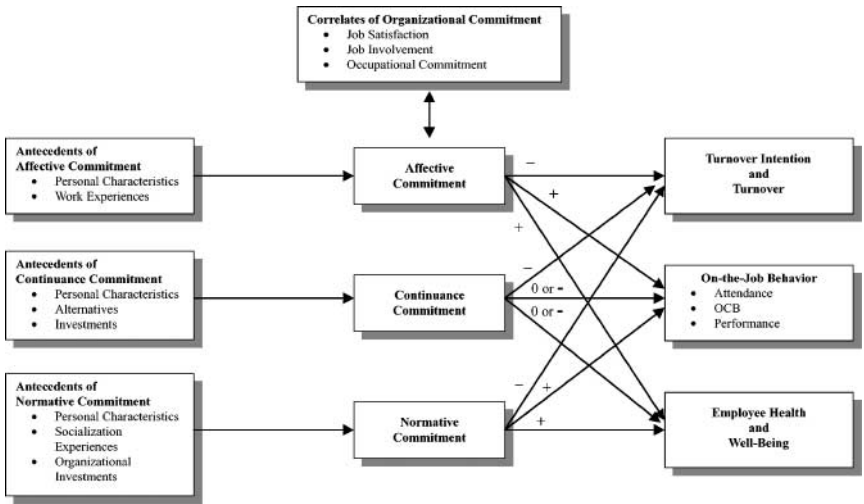


FIG. 1. A Three-Component Model of Organizational Commitment.

Until recently, organizational commitment theory and research has focused primarily on outcomes of relevance to employers. There is now a growing body of research examining the links between commitment and employee-relevant outcomes including stress and work–family conflict. Therefore, we included employee health and well-being as an outcome category in the model. There is some disagreement, however, about how commitment, particularly affective commitment, relates to these outcome variables. Some researchers argue that affective commitment can buffer the negative impact of work stressors on employee health and well-being (e.g., Begley & Czajka, 1993), whereas others suggest that committed employees might experience more negative reactions to such stressors than those who are less committed (e.g., Reilly, 1994).

Figure 1 also includes a category of variables that, like Mathieu and Zajac (1990), we considered *correlates* of commitment because there is no consensus concerning causal ordering. The debate concerning causality is most salient in the case of job satisfaction (for a summary of conflicting findings, see Meyer, 1997). Job involvement and occupational commitment are other frequently studied correlates. Like job satisfaction, these variables have an “affective” tone and are best considered to be correlates of affective commitment. Meyer and Allen (1991, 1997) argued, however, that although they are correlated, job satisfaction, job involvement, and occupational commitment all are distinguishable from affective commitment to the organization.

Objectives of the Current Research

Allen and Meyer (1996) conducted a narrative review of research using one or more of the ACS, CCS, and NCS to evaluate the construct validity of the

measures and, by extension, the Three-Component Model. They concluded that the findings generally supported the model and the continued use of the commitment measures. At the time that Allen and Meyer conducted their review, there were too few studies reporting correlations between the commitment scales and many of the antecedent, correlate, or consequence variables to justify the application of meta-analysis. Since then, many more studies have been conducted. One of our objectives, therefore, was to calculate meta-analytic estimates of the relations between variables identified in the Three-Component Model.

A major advantage of meta-analysis over narrative reviews is that, by correcting for statistical artifacts (e.g., unreliability of measurement), it is possible to estimate the true correlations between constructs (cf. Schmidt, 1992). Therefore, unlike Allen and Meyer (1996), who reported study correlations between *measures* of the variables included in the model, our objective was to estimate the true correlations between the *constructs* underlying these measures. Moreover, by controlling variance due to sampling error across study correlations, we could determine whether there is meaningful variance in correlations across studies and, if so, attempt to explain this variance. Our focus, therefore, was not on the validity of the commitment scales but rather on the validity and generalizability of the model itself.

Although they argued that the model was generally supported, Allen and Meyer (1996) identified a few issues that warranted further investigation. Specifically, they recommended that additional attention be given to investigating (a) the strength of relation between the components of commitment, most notably affective and normative commitment; (b) the dimensionality of the CCS; and (c) the generalizability of the model outside North America. A second objective of the current research, therefore, was to address these issues through meta-analyses of data reported prior to, and following, Allen and Meyer's review. The issues and our approach to resolving them are described below.

Relations among the components. According to Meyer and Allen (1991; see also Allen & Meyer, 1990), affective, continuance, and normative commitment are *distinguishable* components of commitment. Results of confirmatory factor analyses (e.g., Dunham, Grube, & Castenada, 1994; Hackett, Bycio, & Hausdorf, 1994; Meyer, Allen, & Gellatly, 1990) have generally supported this hypothesis. Nevertheless, research using the ACS, CCS, and NCS has consistently yielded non-zero correlations between the scales. Most notably, the correlation between the ACS and NCS is often quite strong. Indeed, some investigators have questioned the utility of retaining normative commitment as a separate scale (e.g., Ko, Price, & Mueller, 1997). Others argued that, despite their high correlation, affective and normative commitment demonstrate sufficiently different correlations with other variables, especially variables purported to be outcomes of commitment, that both are worth retaining (e.g., Cohen, 1996; Meyer et al., 1993). In an attempt to clarify the distinction between affective and normative commitment, Meyer et al. (1993) revised the NCS (see Method for more details). To evaluate the conflicting arguments, we estimated the true correlation between affective and normative commitment and

compared their correlations to other variables. Moreover, to determine whether revisions made to the NCS had any effect on the strength of these relations, we conducted separate analyses for studies that used the original and revised versions of the scale.

Dimensionality of continuance commitment. Meyer and Allen (1984) developed an 8-item scale (the CCS) that they asserted was more appropriate than existing instruments (e.g., Hrebiniak & Alutto, 1972; Ritzer & Trice, 1969) for the measurement of commitment as conceptualized by Becker (1960) in his "side bet" theory. Although internal consistency estimates for the CCS have generally been acceptable, a principal components analysis conducted by McGee and Ford (1987) revealed three factors, two of which were interpretable. One factor, labeled CC:LoAlt, was defined by 3 items reflecting a perceived lack of alternative employment opportunities. A second factor, labeled CC:HiSac, was defined by 3 items reflecting perceived sacrifices associated with leaving the organization. McGee and Ford also noted that these subscales correlated significantly, and in opposite directions, with scores on the ACS; CC:LoAlt correlated negatively ($r = -.21$) and CC:HiSac correlated positively ($r = .34$).

Attempts to evaluate the dimensionality of the CCS using confirmatory factor analyses have yielded mixed results. Some studies found evidence for a two-dimensional structure (e.g., Hackett et al., 1994; Meyer et al., 1990; Somers, 1993), whereas others found the scale to be unidimensional (e.g., Dunham et al., 1994; Ko et al., 1997; Shore & Tetrick, 1991). Even when evidence for two factors was obtained, however, the factors were generally highly correlated. An important consideration in deciding whether to treat continuance commitment as a one- or two-dimensional construct, therefore, is how the subscales relate to other constructs. If they relate differently, as McGee and Ford (1987) found to be the case with the ACS, it will have implications for how correlations involving the full-scale CCS are interpreted and for how continuance commitment should be operationally defined in the future. Using meta-analysis, we can provide an estimate of the true correlation between the subcomponents of continuance commitment and of the correlations between these subcomponents and other variables.

Generalizability of the model outside North America. Allen and Meyer (1996) noted that the ACS, CCS, and NCS were beginning to be used outside North America. However, they identified only one such study in their review. Since then, there has been an increase in the use of these scales in countries around the world. This raises issues concerning the generalizability of the model in other cultures. Admittedly, the number of studies conducted outside North America is still relatively small, and the number of studies from any particular country is smaller still. Therefore, it is not possible at this time to conduct a systematic evaluation of cross-cultural generalizability. Nevertheless, using meta-analysis, it is possible to determine whether geographic location acts as a moderator for some of the relations examined in this study. These preliminary findings could prove useful to those who are using the scales outside North America and serve as the basis for more systematic cross-cultural investigations in the future.

METHOD

Literature Search

The search for studies to be used in our meta-analyses involved computer and manual methods. The computer search involved scanning the *PsychLit* (1985–2000), *PsycInfo* (1985–2000), and *ProQuest Direct* (1990–2000) databases using the key words *commitment*, *organizational commitment*, *affective*, *continuance*, and *normative commitment* as well as *Meyer and Allen*. In addition, we searched the *Social Sciences Citation Index* up to and including the year 2000 for studies that cited articles of direct relevance to the commitment measures (i.e., Allen & Meyer, 1990; Meyer & Allen, 1984, 1991, 1997; Meyer et al., 1993). The manual search was conducted by contacting the authors of the published studies and dissertations we had found as well as people who, over the course of the past 15 years, asked for permission to use the commitment scales in their research to request articles, manuscripts, or the results of data analyses involving one or more of the ACS, CCS, and NCS. Our mailout of 58 requests yielded 18 responses and identified 12 additional studies (20 letters were returned undelivered).

To be included in our analyses, a study had to use one of the three commitment scales (ACS, CCS, or NCS) and report zero-order correlations with relevant variables. We conducted analyses only for variables for which there were at least three correlations from independent samples. We did not include studies that reported only regression coefficients or correlations between latent variables obtained in structural equation modeling analyses. In cases where zero-order correlations were not reported, we attempted to contact authors to obtain these correlations. In total, we identified research reports providing usable data for 155 independent samples involving 50,146 employees. Of these samples, 99 were from published articles, 22 were from dissertations, and 34 were from unpublished manuscripts or papers presented at conferences. When we encountered more than one report providing data from the same or overlapping samples, we included the data from the one including the largest sample. For longitudinal studies, we included only correlations between measures obtained on a single occasion and for only a single wave of data. The sources for studies included in the meta-analyses are identified with asterisks in the References.

Analytic Procedures

The meta-analyses were conducted using procedures described by Hunter and Schmidt (1990). First, correlations were corrected for unreliability using the reliability estimates reported for each sample. In cases where reliabilities were not reported, whenever possible, we substituted the mean reliability obtained from all studies in our database reporting reliabilities. These means are reported in Table 1. Note that for demographic variables such as age and tenure, we assumed that reliabilities were 1.00. Next, we estimated true correlations (ρ) by computing the average of the corrected correlations, weighting each correlation by sample size and degree of artifact correction (i.e., following procedures suggested by Hunter

TABLE 1
Reliabilities

Scale	Average <i>N</i> -weighted reliability	<i>k</i>	<i>N</i>
ACS	.82	144	47,073
NCS	.73	61	22,080
CCS	.76	102	34,424
CCS: HiSac	.70	12	4,283
CCS: LoAlt	.70	12	4,283
OCQ	.90	7	3,438
Self-efficacy	.83	4	806
Locus of control	.82	2	322
Justice: Interactional	.92	5	916
Justice: Distributive	.80	7	1,656
Justice: Procedural	.89	11	3,747
Leadership: Transformational	.95	4	2,361
Role ambiguity	.82	8	2,587
Role conflict	.78	6	2,112
Organizational support	.90	15	5,619
Alternatives	.90	1	265
Investments	.79	1	265
Job involvement	.82	15	3,432
Career commitment	.86	13	3,599
Satisfaction: Overall	.86	54	20,059
Satisfaction: Coworkers	.76	2	532
Satisfaction: Extrinsic	.70	3	895
Satisfaction: Intrinsic	.84	3	895
Satisfaction: Pay	.87	5	819
Satisfaction: Promotion	.85	3	309
Satisfaction: Supervision	.90	3	671
Satisfaction: Work	.84	2	532
Performance	.82	10	3,354
Withdrawal cognition	.82	38	13,264
Absence	.58	1	166
OCB	.85	15	4,611
Work–Family conflict	.85	9	2,147
Stress	.85	5	2,189

Note. ACS, Affective Commitment Scale; NCS, Normative Commitment Scale; CCS, Continuance Commitment Scale; OCQ, Organizational Commitment Questionnaire; OCB, organizational citizenship behavior. *k* = number of studies in analysis; *N* = total number of respondents.

and Schmidt, study correlations that required less correction for artifacts were given greater weight in the computation of true correlation estimates). The expected sampling error variance was then subtracted from the observed variance in the correlations to obtain an estimate of the true variation in the estimate of the population correlation. Credibility intervals were computed by multiplying the *z* score for the desired interval by this corrected standard deviation ($SD\rho$). All analyses were conducted using a computer program developed by Stanley (2000).

Data transformations. Studies reporting correlations between commitment and relevant outcomes sometimes included correlations with multiple measures of the same variable (e.g., self and supervisor ratings of performance). To compute a single correlation for use in overall or subgroup analyses, we used the weighted linear composite method recommended by Hunter and Schmidt (1990) whenever possible. If the authors did not provide sufficient information to generate the composite, then a simple average correlation was used for that study.

Moderator analyses. Hunter and Schmidt (1990) suggested that if at least 75% of the variance in study correlations is explained by artifacts (e.g., sampling error, measurement unreliability, range restriction), then it is unlikely that a search for moderators will yield meaningful results. In the current research, we corrected only for unreliability before estimating the variance explained by sampling error. Accordingly, we lowered the cutoff and conducted subgroup analyses when (a) less than 60% of the variance in the corrected correlations was explained by sampling error and (b) there was a minimum of three studies available for each subgroup.

When appropriate, we examined the moderating effects of form of commitment measure and geographic location of the study. With regard to form of measure, we conducted separate analyses for the 6-item (Meyer et al., 1993) and 8-item (Allen & Meyer, 1990) versions of the commitment scales. The major difference between the 6- and 8-item versions is in the NCS; the 6-item version was intended to measure employees' sense of obligation to remain in an organization more generally and placed less emphasis than the 8-item version on socialized obligation. Some investigators made modifications to the published versions of the scales (e.g., eliminated or modified items, translated items). Although we included studies using modified scales in our principal analyses, we excluded them in the subgroup analyses.

We also conducted separate analyses for studies conducted within versus outside North America. Unfortunately, there were too few studies available to make systematic comparisons across cultures. Our objective, therefore, was simply to determine whether meaningful differences in relations might be expected when the model is tested outside North America. Not surprisingly, geographic location and language are largely confounded because using the commitment scales outside North America often requires that they be translated. Indeed, 72% of the studies conducted outside North America used translated versions of the scales. Thus, any differences observed could reflect cultural differences, problems with translation, or both (see Allen & Meyer, 2000). The findings of analyses using language as a moderator were very similar to those using geographic location; therefore, only the latter are reported.

The nature of research concerning the consequences of commitment necessitated some additional subgroup analyses. Specifically, for job performance, we conducted separate analyses for supervisor ratings and self-ratings. Similarly, for OCB, we conducted separate analyses for self-ratings and supervisor ratings and for specific forms of citizenship behavior. For absenteeism, we conducted separate analyses for voluntary and involuntary absence. Finally, for withdrawal cognition,

we conducted separate analyses for general measures (e.g., those including items pertaining to thoughts of quitting, intention to search, or intention to quit) and for pure measures of turnover intention.

RESULTS

Relations among the Components of Commitment

Results of the analyses involving correlations among the component measures are presented in Table 2. For comparison purposes, we also computed correlations with commitment measured using the Organizational Commitment Questionnaire (OCQ) (Mowday et al., 1979), the most widely used unidimensional measure of organizational commitment. In all of these analyses, less than 60% of the variance in study correlations was accounted for by sampling error; therefore, when sufficient data were available, moderator analyses were conducted. Results for the subgroup analyses are also reported in Table 2.

As expected, the corrected correlation between affective and normative commitment was substantial ($\rho = .63$), suggesting that there is considerable overlap in the two constructs. When analyses were conducted separately for the 8- and 6-item measures, the correlation was considerably larger for the 6-item measure ($\rho = .77$) than for the 8-item measure ($\rho = .54$). Analyses conducted separately for studies conducted within and outside North America revealed a higher correlation outside ($\rho = .69$) compared to within ($\rho = .59$) North America.

The correlations between continuance commitment, measured using the full-scale CCS, and both affective ($\rho = .05$) and normative ($\rho = .18$) commitment were modest. The correlations between affective commitment and the alternatives ($\rho = -.24$) and sacrifice ($\rho = .06$) subcomponents of continuance commitment, albeit low, were opposite in sign, as expected. The same was true for correlations with normative commitment, but in this case the strength of association was greater for the sacrifice component ($\rho = .16$) than for the alternatives component ($\rho = -.02$). Although not reported in Table 2, the subcomponents themselves were highly correlated ($k = 9$, $N = 3608$, $\rho = .86$).

Commitment measured using the OCQ correlated highly with commitment measured using the ACS ($\rho = .88$). Moreover, correlations with normative ($\rho = .50$) and continuance ($\rho = -.02$) commitment were comparable to those for affective commitment measured using the ACS.

Antecedent Variables

Results of analyses involving the antecedent variables are presented in Table 3. We divided these variables into four groups: demographic variables, individual differences, work experiences, and alternatives/investments. In most of the analyses, a relatively small portion of the variance was accounted for by sampling error. Therefore, we conducted planned subgroup analyses. The results of these analyses are also reported in Table 3. Correlations with the demographic variables were generally low. Age and tenure (organization and position) correlated positively, albeit weakly, with all three components of commitment. However, there

TABLE 2
Relations among Commitment Components

	ACS				NCS				CCS						
	<i>k</i>	<i>N</i>	ρ	<i>SD_{ρ}</i>	90% Cred	<i>k</i>	<i>N</i>	ρ	<i>SD_{ρ}</i>	90% Cred	<i>k</i>	<i>N</i>	ρ	<i>SD_{ρ}</i>	90% Cred
NCS	54	18,508	.63 ^{ab}	.1899	.1823	—	—	—	—	—	—	—	—	—	—
Scale															
6 items	11	2,826	.77 ^a	.1673	.1606	—	—	—	—	—	—	—	—	—	—
8 items	27	9,472	.54 ^a	.1400	.1275	—	—	—	—	—	—	—	—	—	—
Location															
North America	39	11,977	.59 ^a	.1813	.1719	—	—	—	—	—	—	—	—	—	—
Outside North America	15	6,531	.69 ^a	.1882	.1830	—	—	—	—	—	—	—	—	—	—
CCS	92	29,604	.05 ^a	.1866	.1728	52	17,903	.18 ^a	.1680	.1522	—	—	—	—	—
Scale															
6 items	12	3,051	-.04	.1097	.0759	11	2,826	.11 ^a	.1337	.1071	—	—	—	—	—
8 items	49	16,086	.03	.1550	.1394	25	8,782	.16 ^a	.1425	.1232	—	—	—	—	—
Location															
North America	68	19,666	.02	.1599	.1425	38	11,519	.15 ^a	.1476	.1266	—	—	—	—	—
Outside North America	24	9,938	.13 ^a	.2188	.2090	14	6,384	.22 ^a	.1916	.1816	—	—	—	—	—
CCS : High Sac	10	3,698	.06	.1554	.1404	5	2,801	.16 ^a	.1057	.0889	9	3,608	1.00 ^a	.0000	1.00-1.00
CCS : Low Alt	10	3,698	-.24 ^a	.1427	.1273	5	2,801	-.02 ^a	.0249	.0000	9	3,608	1.00 ^a	.0000	1.00-1.00
OCQ	9	4,542	.88 ^a	.0739	.0709	8	4,314	.50 ^a	.1057	.0957	10	4,774	-.02	.1463	-.24-20

Note. ACS, Affective Commitment Scale; NCS, Normative Commitment Scale; CCS, Continuance Commitment Scale; OCQ, Organizational Commitment Questionnaire. *k* = number of studies in analysis; *N* = total number of respondents; ρ = weighted average corrected correlation; *SD _{ρ}* = observed standard deviation of corrected correlations; *SD _{ρ}* = estimated true/residual standard deviation of corrected correlation; 90% Cred = 90% credibility interval centered on average corrected correlation.

^a Confidence interval constructed around the uncorrected *N*-weighted mean correlator does not include zero.

^b Percentage of *SD _{ρ}* accounted for by sampling error is more than 60%.

TABLE 3
Antecedents of Commitment

	ACS						NCS						CCS					
	<i>k</i>	<i>N</i>	ρ	<i>SD₀</i>	<i>SD_p</i>	90% Cred	<i>k</i>	<i>N</i>	ρ	<i>SD₀</i>	<i>SD_p</i>	90% Cred	<i>k</i>	<i>N</i>	ρ	<i>SD₀</i>	<i>SD_p</i>	90% Cred
Demographic variables																		
Age	53	21,446	.15 ^a	.0972	.0809	.02--28	24	9,480	.12 ^a	.1510	.1399	-.11--35	36	14,057	.14 ^a	.1045	.0876	.00--29
Scale																		
6 items	5	1,677	.14 ^a	.1019	.0831	.00--28	—	—	—	—	—	—	3	1,067	.07 ^b	.0642	.0228	.03--11
8 items	26	9,132	.16 ^a	.0961	.0777	.03--29	—	—	—	—	—	—	19	6,975	.10 ^{ab}	.0775	.0509	.02--19
Location																		
North America	39	15,567	.15 ^a	.0957	.0792	.02--28	16	6,229	.15 ^a	.1452	.1337	-.07--37	26	9,282	.12 ^a	.0970	.0771	-.01--25
Outside North America	14	5,879	.17 ^a	.0994	.0833	.03--31	8	3,251	.07	.1475	.1358	-.16--29	10	4,775	.20 ^a	.0993	.0840	.06--34
Gender	32	11,764	-.03	.1016	.0837	-.17--11	16	5,982	-.02	.1027	.0843	-.16--12	22	9,530	.01	.1400	.1286	-.21--22
Scale																		
6 items	3	1,000	-.13 ^a	.0413	.0000	-.13--13	—	—	—	—	—	—	—	—	—	—	—	—
8 items	12	3,687	.02	.1131	.0948	-.14--17	—	—	—	—	—	—	—	—	—	—	—	—
Location																		
North America	17	4,946	.01	.1217	.1039	-.16--19	8	1,673	.03	.1065	.0713	-.09--14	12	3,829	.04	.1582	.1453	-.19--28
Outside North America	15	6,818	-.07 ^a	.0617	.0325	-.12--01	8	4,255	-.04	.0949	.0815	-.17--09	10	5,701	-.02	.1173	.1066	-.20--15
Education	32	11,491	-.02	.1161	.1002	-.18--15	12	2,606	.01	.1583	.1378	-.21--24	20	6,043	-.11 ^a	.1611	.1473	-.35--14
Scale																		
6 items	4	1,210	.03	.1173	.0992	-.14--19	—	—	—	—	—	—	3	916	.00	.0876	.0605	-.10--10
8 items	14	3,755	.05	.1359	.1188	-.15--24	—	—	—	—	—	—	9	2,389	-.13 ^a	.0871	.0549	-.22--04
Location																		
North America	20	7,898	-.01	.1252	.1123	-.19--18	9	1,956	.02	.1783	.1608	-.24--29	12	3,305	-.09 ^a	.1038	.0795	-.23--04
Outside North America	12	3,593	-.04	.0861	.0553	-.13--05	3	650	-.02 ^b	.0428	.0000	-.02--02	8	2,738	-.12	.2149	.2054	-.46--21
Organization tenure	51	18,630	.16 ^a	.1298	.1168	-.03--35	22	7,905	.17 ^a	.1459	.1332	-.05--39	39	13,347	.21 ^a	.1147	.0978	.05--37
Scale																		
6 items	3	978	.16 ^a	.1194	.1040	-.01--33	—	—	—	—	—	—	—	—	—	—	—	—
8 items	26	8,444	.20 ^a	.1410	.1285	-.01--41	—	—	—	—	—	—	—	—	—	—	—	—
Location																		
North America	31	11,919	.16 ^a	.1404	.1292	-.06--37	13	4,308	.24 ^a	.1222	.1051	.07--42	23	7,195	.19 ^a	.1142	.0958	.03--35
Outside North America	20	6,711	.17 ^a	.1072	.0890	.02--31	9	3,597	.08	.1213	.1077	-.09--26	16	6,152	.23 ^a	.1111	.0953	.08--39
Position tenure	14	6,796	.07 ^{ab}	.0607	.0342	.01--12	5	3,279	.15 ^a	.0697	.0534	.06--24	10	5,640	.15 ^a	.0944	.0815	.01--28
Location																		
North America	11	4,797	.07 ^{ab}	.0663	.0416	.00--14	—	—	—	—	—	—	—	—	—	—	—	—
Outside North America	3	1,999	.06 ^{ab}	.0404	.0000	.06--06	—	—	—	—	—	—	—	—	—	—	—	—
Marital status	9	2,239	.09 ^{ab}	.0872	.0544	.00--18	5	864	.00 ^b	.0666	.0000	.00--00	6	1,121	.04	.1569	.1313	-.18--26

TABLE 3—Continued

	ACS					NCS					CCS							
	<i>k</i>	<i>N</i>	ρ	<i>SD</i> ₀	<i>SD</i> _{ρ}	90% Cred	<i>k</i>	<i>N</i>	ρ	<i>SD</i> ₀	<i>SD</i> _{ρ}	90% Cred	<i>k</i>	<i>N</i>	ρ	<i>SD</i> ₀	<i>SD</i> _{ρ}	90% Cred
Individual differences																		
Locus of control	4	1,010	-.29 ^a	.1456	.1267	-.50--.08	—	—	—	—	—	—	—	—	—	—	—	—
Self-efficacy	3	580	.11 ^b	.0877	.0204	.08--.14	—	—	—	—	—	—	—	—	—	—	—	—
Work experiences																		
Organizational support	18	7,128	.63 ^a	.1290	.1222	.43--.83	8	2,831	.47 ^a	.1089	.0945	.32--.63	15	6,547	-.11 ^a	.1410	.1289	-.32--.10
Location																		
North America	12	3,453	.61 ^a	.1721	.1652	.34--.88	5	1,155	.42 ^a	.1505	.1318	.20--.63	9	2,872	-.09 ^a	.1101	.0887	-.23--.06
Outside North America	6	3,675	.66 ^a	.0456	.0307	.61--.71	3	1,676	.51 ^{ab}	.0440	.0175	.48--.54	6	3,675	-.13	.1605	.1528	-.38--.12
Transformational leadership	4	2,361	.46 ^{ab}	.0467	.0245	.42--.50	3	2,246	.27 ^a	.0877	.0775	.14--.40	4	2,361	-.14 ^a	.0927	.0800	-.27--.00
Role ambiguity	12	3,774	-.39 ^a	.1794	.1689	-.67--.12	7	1,853	-.21 ^a	.1439	.1211	-.41--.01	11	3,591	.10 ^a	.0942	.0635	-.01--.20
Location																		
North America	8	2,420	-.47 ^a	.1258	.1115	-.65--.29	4	682	-.23 ^a	.1495	.1125	-.42--.05	8	2,420	.12 ^{ab}	.0847	.0481	.04--.19
Outside North America	4	1,354	-.26 ^a	.1801	.1691	-.54--.02	3	1,171	-.19 ^a	.1386	.1232	-.40--.01	3	1,171	.04	.0980	.0698	-.07--.16
Role conflict	9	3,225	-.30 ^a	.0939	.0716	-.42--.18	5	1,529	-.24 ^{ab}	.0908	.0536	-.33--.16	8	3,042	.13 ^a	.1364	.1194	-.06--.33
Location																		
North America	6	2,057	-.33 ^a	.1023	.0818	-.46--.20	—	—	—	—	—	—	5	1,874	.20 ^a	.0963	.0731	.08--.32
Outside North America	3	1,168	-.25 ^{ab}	.0471	.0000	-.25--.25	—	—	—	—	—	—	3	1,168	-.01 ^b	.0867	.0503	-.09--.07
Interactional justice	6	1,210	.50 ^a	.1262	.1086	.32--.68	3	658	.52 ^a	.1580	.1428	.29--.76	4	823	-.16 ^{ab}	.0458	.0000	-.16--.16
Distributive justice	14	3,426	.40 ^a	.1318	.1124	.22--.59	10	2,611	.31 ^a	.2023	.1878	.00--.62	10	2,440	-.06	.1701	.1485	-.30--.19
Scale																		
6 items	3	884	.39 ^{ab}	.0689	.0319	.33--.44	—	—	—	—	—	—	—	—	—	—	—	—
8 items	9	1,675	.36 ^a	.1590	.1358	.14--.58	—	—	—	—	—	—	—	—	—	—	—	—
Procedural justice	14	4,384	.38 ^a	.2044	.1960	.05--.70	7	2,422	.31 ^a	.1431	.1303	.10--.52	7	2,476	-.14	.2229	.2138	-.49--.21
Scale																		
6 items	3	884	.41 ^{ab}	.0476	.0000	.41--.41	—	—	—	—	—	—	—	—	—	—	—	—
8 items	9	1,769	.38 ^a	.1488	.1289	.17--.59	—	—	—	—	—	—	—	—	—	—	—	—
Alternatives/Investments																		
Alternatives	6	1,655	-.07	.1905	.1776	-.36--.22	3	708	-.08	.0629	.0000	-.08--.08	6	1,655	-.21	.2601	.2504	-.62--.21
Investments	4	887	.24 ^{ab}	.0764	.0000	.24--.24	3	622	.21 ^a	.1896	.1669	-.06--.49	4	887	.01	.1288	.0956	-.14--.17
Transferability of education	4	978	-.04	.0943	.0646	-.15--.07	3	713	-.07	.0992	.0656	-.18--.04	4	978	-.22 ^{ab}	.0762	.0266	-.26--.17
Transferability of skills	4	978	.17 ^{ab}	.0802	.0440	.10--.24	3	713	.13 ^a	.1036	.0728	.01--.25	4	978	-.31 ^{ab}	.0870	.0553	-.39--.22

Note. ACS, Affective Commitment Scale; NCS, Normative Commitment Scale; CCS, Continuance Commitment Scale; *k* = number of studies in analysis; *N* = total number of respondents; ρ = weighted average corrected correlation; *SD*₀ = observed standard deviation of corrected correlations; *SD* _{ρ} = estimated true/residual standard deviation of corrected correlation; 90% Cred = 90% credibility interval centered on average corrected correlation. Gender is coded lower for men. Marital status is coded higher for married. Locus of control is coded higher for external locus of control.

^a Confidence interval constructed around the uncorrected *N*-weighted mean correlation does not include zero.

^b Percentage of *SD*₀ accounted for by sampling error is more than 60%.

were some interesting differences in comparisons of studies conducted within and outside North America. Specifically, age correlated more strongly with continuance commitment in studies conducted outside North America (ρ 's = .20 vs .12). The reverse was true for the correlations with normative commitment, where age correlated less strongly outside North America (ρ 's = .07 vs .15). Organizational tenure also correlated less strongly with normative commitment in studies outside North America (ρ 's = .08 vs .24).

Two individual difference variables met our criterion for inclusion, but only for affective commitment. External locus of control correlated negatively with affective commitment ($\rho = -.29$), whereas task self-efficacy had a weak positive correlation ($\rho = .11$). There were too few studies available to conduct subgroup analyses.

Correlations involving the work experience variables were generally much stronger than those involving personal characteristics. As expected, these variables correlated most strongly with affective commitment. In all cases, the sign of the correlation involving continuance commitment was opposite to that for affective and normative commitment.

Subgroup analyses conducted for the work experience variables revealed that role ambiguity and role conflict correlated more strongly with affective commitment in studies conducted within compared to outside North America (ρ 's = $-.47$ vs $-.26$ and ρ 's = $-.33$ vs $-.25$, respectively). Role conflict was also more strongly correlated with continuance commitment in North American studies (ρ 's = .20 vs $-.01$). Finally, the correlation between perceived organizational support and normative commitment was stronger in studies conducted outside North America (ρ 's = .52 vs .42).

The availability of alternatives and investment variables were expected to correlate more strongly with continuance commitment than with affective or normative commitment. For availability of alternatives, the pattern of correlations was as expected (ρ 's = $-.21$ vs $-.07$ and $-.08$, respectively). Correlations involving transferability of skills and education were also consistent with prediction (ρ 's = $-.31$ and $-.22$ with continuance commitment vs .17 and $-.04$ with affective commitment and .13 and $-.07$ with normative commitment). Correlations involving general measures of investments, however, did not show this same pattern; the correlations with affective ($\rho = .24$) and normative ($\rho = .21$) commitment were greater than the correlation with continuance commitment ($\rho = .01$).

Correlate Variables

Results from analyses involving the correlate variables are presented in Table 4. As expected, the correlations between affective commitment and overall job satisfaction, job involvement, and occupational commitment were all quite strong, and considerably stronger than the correlations with continuance and normative commitment. The strongest correlation involving affective commitment was with overall job satisfaction ($\rho = .65$). Correlations with measures of the five facets of satisfaction for which we had sufficient data tended to be lower.

TABLE 4
Correlates of Commitment

	ACS					NCS					CCS							
	<i>k</i>	<i>N</i>	ρ	<i>SD</i> ₀	<i>SD</i> _{ρ}	90% Cred	<i>k</i>	<i>N</i>	ρ	<i>SD</i> ₀	<i>SD</i> _{ρ}	90% Cred	<i>k</i>	<i>N</i>	ρ	<i>SD</i> ₀	<i>SD</i> _{ρ}	90% Cred
Job involvement	16	3,625	.53 ^a	.1413	.1258	.33--.74	4	441	.40 ^a	.2088	.1682	.12--.68	8	1,526	.03 ^b	.1090	.0600	-.06--.13
Scale																		
6 items	3	445	.60 ^{ab}	.0280	.0000	.60--.60	—	—	—	—	—	—	—	—	—	—	—	—
8 items	8	2,213	.59 ^a	.1251	.1128	.40--.77	—	—	—	—	—	—	—	—	—	—	—	—
Occupational commitment	13	3,599	.51 ^a	.1134	.0975	.35--.67	—	—	—	—	—	—	—	—	—	—	—	—
Location																		
North America	10	2,674	.52 ^a	.1254	.1115	.34--.70	—	—	—	—	—	—	—	—	—	—	—	—
Outside North America	3	925	.48 ^{ab}	.0510	.0000	.48--.48	—	—	—	—	—	—	—	—	—	—	—	—
Overall job satisfaction	69	23,656	.65 ^a	.1367	.1289	.43--.86	25	9,944	.31 ^a	.1402	.1269	.10--.52	44	15,492	-.07 ^a	.1242	.1050	-.24--.11
Scale																		
6 items	10	2,956	.60 ^a	.1698	.1626	.34--.87	5	1,918	.43 ^a	.1615	.1524	.18--.68	7	2,313	-.15 ^a	.1380	.1214	-.35--.05
8 items	40	12,217	.65 ^a	.1158	.1062	.48--.83	12	5,763	.26 ^a	.1094	.0934	.10--.41	24	8,909	-.06 ^a	.0992	.0763	-.19--.07
Location																		
North America	56	18,384	.67 ^a	.1187	.1102	.49--.85	19	7,390	.31 ^a	.1537	.1410	.08--.55	33	10,920	-.09 ^a	.1178	.0970	-.25--.07
Outside North America	13	5,272	.56 ^a	.1643	.1569	.30--.82	6	2,554	.31 ^a	.0954	.0774	.19--.44	11	4,572	-.01	.1239	.1057	-.18--.16
Pay satisfaction	9	1,931	.35 ^a	.1032	.0725	.23--.47	8	1,601	.19 ^a	.2197	.2017	-.14--.52	9	1,931	.02 ^b	.0948	.0447	-.05--.10
Coworker satisfaction	5	1,391	.45 ^a	.1864	.1742	.16--.73	4	1,061	.16 ^a	.1103	.0756	.03--.28	5	1,391	-.11 ^{ab}	.0968	.0590	-.21--.01
Extrinsic satisfaction	3	895	.71 ^{ab}	.0550	.0000	.71--.71	—	—	—	—	—	—	—	—	—	—	—	—
Intrinsic satisfaction	3	895	.68 ^{ab}	.0456	.0000	.68--.68	—	—	—	—	—	—	—	—	—	—	—	—
Promotion satisfaction	5	900	.38 ^a	.1624	.1398	.15--.61	5	900	.18 ^a	.1882	.1629	-.09--.45	5	900	-.04 ^b	.1175	.0704	-.16--.08
Supervision satisfaction	4	987	.42 ^{ab}	.0811	.0497	.34--.50	3	657	.13	.1470	.1214	-.07--.33	4	987	-.04	.1125	.0844	-.18--.09
Work satisfaction	3	856	.62 ^a	.0977	.0823	.49--.76	—	—	—	—	—	—	3	856	-.11 ^{ab}	.0815	.0396	-.18--.05

Note. ACS, Affective Commitment Scale; NCS, Normative Commitment Scale; CCS, Continuance Commitment Scale. *k* = number of studies in analysis; *N* = total number of respondents; ρ = weighted average corrected correlation; *SD*₀ = observed standard deviation of corrected correlations; *SD* _{ρ} = estimated true/residual standard deviation of corrected correlation; 90% Cred = 90% credibility interval centered on average corrected correlation.

^a Confidence interval constructed around the uncorrected *N*-weighted mean correlation does not include zero.

^b Percentage of *SD*₀ accounted for by sampling error is more than 60%.

TABLE 5
Consequences of Commitment

	ACS						NCS						CCS								
	<i>k</i>	<i>N</i>	ρ	<i>SD_p</i>	90% Cred	<i>k</i>	<i>N</i>	ρ	<i>SD_p</i>	90% Cred	<i>k</i>	<i>N</i>	ρ	<i>SD_p</i>	90% Cred	<i>k</i>	<i>N</i>	ρ	<i>SD_p</i>	90% Cred	
Turnover	8	2,636	-.17 ^a	.1514	.1395	4	970	-.16 ^a	.1330	.1098	6	1,933	-.10	.1530	.1390	6	1,933	-.10	.1530	.1390	-.33-13
Overall withdrawal cognition	51	17,282	-.56 ^a	.2164	.2099	25	9,645	-.33 ^a	.2580	.2505	39	13,590	-.18 ^a	.1646	.1503	39	13,590	-.18 ^a	.1646	.1503	-.42-.07
Scale																					
6 items	4	1,096	-.52 ^a	.1886	.1799	3	780	-.28	.2343	.2239	3	780	-.13	.2434	.2319	3	780	-.13	.2434	.2319	-.51-.25
8 items	25	9,174	-.60 ^a	.1177	.1074	12	5,860	-.25 ^a	.2743	.2679	15	6,945	-.13 ^a	.1232	.1086	15	6,945	-.13 ^a	.1232	.1086	-.31-.05
Location																					
North America	39	12,121	-.58 ^a	.1588	.1498	18	6,909	-.26 ^a	.2743	.2665	29	9,129	-.13 ^a	.1516	.1343	29	9,129	-.13 ^a	.1516	.1343	-.35-.09
Outside North America	12	5,161	-.49 ^a	.3068	.3027	7	2,736	-.47 ^a	.1361	.1250	10	4,461	-.28 ^a	.1462	.1337	10	4,461	-.28 ^a	.1462	.1337	-.50-.06
Focus																					
Withdrawal cognition	33	10,246	-.58 ^a	.2488	.2427	18	5,249	-.30 ^a	.1778	.1612	27	8,066	-.20 ^a	.1652	.1487	27	8,066	-.20 ^a	.1652	.1487	-.44-.05
Pure turnover intention	24	8,724	-.51 ^a	.1913	.1839	12	5,855	-.39 ^a	.1691	.1607	17	6,844	-.17 ^a	.1847	.1735	17	6,844	-.17 ^a	.1847	.1735	-.45-.12
Overall absence	10	3,543	-.15 ^b	.0857	.0359	4	770	.05 ^{ab}	.0175	.0000	7	2,301	.06 ^{ab}	.0471	.0000	7	2,301	.06 ^{ab}	.0471	.0000	.06-.06
Source																					
Supervisor rating	4	1,298	-.22 ^b	.0745	.0000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Self-report	5	1,832	-.11 ^b	.0654	.0000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Measure																					
Involuntary	4	2,108	-.09 ^{ab}	.0607	.0000	—	—	—	—	—	3	1,695	.06 ^b	.0566	.0000	3	1,695	.06 ^b	.0566	.0000	.06-.06
Voluntary	7	1,743	-.22 ^b	.0775	.0000	—	—	—	—	—	4	620	.04 ^b	.1027	.0000	4	620	.04 ^b	.1027	.0000	.04-.04
Overall job performance	25	5,938	.16 ^a	.1230	.0952	9	2,686	.06	.0969	.0618	17	4,040	-.07 ^a	.1179	.0818	17	4,040	-.07 ^a	.1179	.0818	-.21-.06
Location																					
North America	15	3,509	.16 ^a	.1098	.0775	5	1,134	.01	.0392	.0000	13	2,488	-.08 ^a	.1277	.0888	13	2,488	-.08 ^a	.1277	.0888	-.23-.06
Outside North America	5	1,839	.14 ^a	.1085	.0878	4	1,552	.10	.1111	.0888	4	1,552	-.05	.0916	.0594	4	1,552	-.05	.0916	.0594	-.14-.05

Self-rated job performance	10	3,460	.12 ^a	.1177	.0983	-.04-.28	6	2,303	.07	.0994	.0745	-.05-.19	6	2,303	-.05 ^b	.0778	.0371	-.11-.01
Supervisor-rated job performance	12	2,026	.17 ^{ab}	.1080	.0559	-.08-.27	—	—	—	—	—	—	10	1,654	-.08	.1539	.1186	-.28-.11
Organizational citizenship	22	6,277	.32 ^a	.1505	.1352	.10-.55	11	3,840	.24 ^a	.1907	.1785	-.05-.53	13	4,367	-.01	.1299	.1094	-.19-.17
Location																		
North America	16	4,216	.26 ^a	.1074	.0815	.13-.39	7	1,934	.10	.1765	.1580	-.16-.36	9	2,461	-.04	.1312	.1072	-.21-.14
Outside North America	6	2,061	.46 ^a	.1394	.1273	.25-.67	4	1,906	.37 ^{ab}	.0781	.0568	.28-.46	4	1,906	.02	.1198	.1033	-.15-.19
Source																		
Self ratings	11	4,214	.37 ^a	.1365	.1240	.16-.57	8	3,198	.24 ^a	.2056	.1958	-.08-.56	8	3,198	.01	.0937	.0672	-.10-.12
Supervisor ratings	8	1,815	.27 ^a	.1010	.0701	.16-.39	3	642	.22 ^{ab}	.0840	.0000	.22-.22	5	1,169	-.08	.1752	.1559	-.33-.18
Subscale																		
Altruism	13	4,057	.26 ^a	.1315	.1135	.07-.45	7	2,307	.20 ^a	.2070	.1936	-.12-.52	8	2,706	-.01	.1410	.1210	-.21-.19
Conscientiousness	13	3,595	.24 ^a	.1674	.1508	-.01-.49	7	2,382	.24 ^a	.2168	.2044	-.10-.58	8	2,781	.04	.1337	.1127	-.14-.23
Stress	5	2,189	-.21 ^a	.1644	.1551	-.46-.05	—	—	—	—	—	—	4	2,120	.14 ^a	.1106	.0979	-.02-.30
Work-Family conflict	10	3,210	-.20 ^a	.1055	.0843	-.34-.06	5	899	-.04 ^b	.0732	.0000	-.04-.04	7	2,105	.24 ^{ab}	.0765	.0397	.17-.31

Note. ACS, Affective Commitment Scale; NCS, Normative Commitment Scale; CCS, Continuance Commitment Scale. *k* = number of studies in analysis; *N* = total number of respondents; ρ = weighted average corrected correlation; SD_0 = observed standard deviation of corrected correlations; SD_ρ = estimated true/residual standard deviation of corrected correlation; 90% Cred = 90% credibility interval centered on average corrected correlation.

^a Confidence interval constructed around the uncorrected *N*-weighted mean correlation does not include zero.

^b Percentage of SD_0 accounted for by sampling error is more than 60%.

The results of subgroup analyses conducted to identify potential moderators are reported in Table 4. The most notable differences were obtained for overall job satisfaction. Although correlations with affective commitment were strong both within and outside North America, the correlation was higher in North American studies (ρ 's = .67 vs .56). The correlation between job satisfaction and normative commitment was greater when normative commitment was measured using the 6-item scale rather than the 8-item scale (ρ 's = .43 vs .26).

Consequence Variables

Results of analyses involving organization-relevant and employee-relevant outcome variables, as well as moderator analyses, when appropriate, are reported in Table 5.

Turnover and withdrawal cognition. As expected, the correlations between the three commitment scales and turnover were all negative. Affective commitment correlated most strongly ($\rho = -.17$), followed by normative ($\rho = -.16$) and continuance ($\rho = -.10$) commitment. Correlations with withdrawal cognitions were stronger than those with actual turnover. Again, the strongest correlations were obtained for affective commitment ($\rho = -.56$), followed by normative ($\rho = -.33$) and continuance ($\rho = -.18$) commitment. Although not reported in Table 5, of the subcomponents of continuance commitment, personal sacrifice correlated more strongly with withdrawal cognition ($k = 7$, $N = 3164$, $\rho = -.21$) than did lack of alternatives ($k = 7$, $N = 3164$, $\rho = -.01$). Analyses conducted to compare correlations for general withdrawal cognition and pure turnover intention measures revealed minor differences, with withdrawal cognition generally correlating more strongly than pure turnover intention.

There were too few studies to conduct subgroup analyses for scale form and geographic location for analyses involving turnover. Subgroup analyses for withdrawal cognition, however, revealed a number of differences for geographic location. The negative correlation between affective commitment and withdrawal cognition was greater in studies conducted within ($\rho = -.58$) than outside ($\rho = -.49$) North America. The reverse was true for correlations involving continuance (ρ 's = $-.13$ vs $-.28$) and normative (ρ 's = $-.26$ vs $-.47$) commitment.

Absenteeism. Only affective commitment was found to correlate negatively with absenteeism ($\rho = -.15$); normative and continuance commitment both correlated positively, albeit near zero. When correlations were computed separately for voluntary and involuntary absence, affective commitment correlated more strongly with the former than with the latter (ρ 's = $-.22$ vs $-.09$). Affective commitment also correlated more strongly with supervisor ratings ($\rho = -.22$) than with self-report measures ($\rho = -.11$) of absence. There were not enough studies within subgroups to make these comparisons for continuance and normative commitment.

Job performance. As expected, affective ($\rho = .16$) and normative ($\rho = .06$) commitment correlated positively, and continuance commitment ($\rho = -.07$) correlated negatively, with job performance. For the most part, correlations obtained in the planned subgroup analyses were very similar. Interestingly, affective

commitment correlated more strongly with supervisor ratings ($\rho = .17$) than with self-ratings of performance ($\rho = .12$). Also noteworthy is the fact that the correlation between normative commitment and performance was slightly larger in studies conducted outside ($\rho = .10$) than within ($\rho = .01$) North America.

Organizational citizenship behavior. As expected, affective ($\rho = .32$) and normative ($\rho = .24$) commitment correlated positively with OCB, whereas the correlation with continuance commitment was near zero. When we conducted separate analyses for self and supervisor ratings, we found a difference in the correlations with affective commitment ($\rho = .37$ for self ratings vs $.27$ for supervisor ratings). Of the various dimensions of OCB that have been examined, only altruism and compliance/conscientiousness were represented sufficiently to conduct separate analyses. The correlations were generally quite similar for the two OCB dimensions. A comparison of correlations across geographic location revealed that, like job performance, OCB correlated more strongly with normative commitment in studies conducted outside North America (ρ 's = $.37$ vs $.10$). In this case, the same pattern was observed for correlations involving affective commitment (ρ 's = $.46$ vs $.27$).

Stress and work-family conflict. Affective commitment correlated negatively with both self-reported stress ($\rho = -.21$) and work-family conflict ($\rho = -.20$). In contrast, continuance commitment correlated positively with both variables (ρ 's = $.14$ and $.24$, respectively). There were too few studies to compute a correlation between normative commitment and stress, but the correlation between normative commitment and work-family conflict was near zero. There were not enough studies to conduct moderator analyses.

DISCUSSION

The results of our meta-analyses provide estimates of the true relations between the components and subcomponents of commitment as well as between these components and variables identified as antecedents, consequences, and correlates in Meyer and Allen's (1991) Three-Component Model. As such, they allow us to evaluate what we know at this point about the nature, development, and consequences of organizational commitment and to what extent the evidence supports predictions made by the model. Moreover, our findings allow us to address previously unresolved issues concerning the model (see Allen & Meyer, 1996), to identify remaining gaps in research, and to suggest new directions and strategies for future research.

Taking Stock: What We Know about Organizational Commitment

With due recognition to limitations in the research on which our analyses were based, the findings reported in the meta-analysis summary tables provide a fairly clear picture of what we know about the antecedents, correlates, and consequences of organizational commitment, at least as the construct is conceptualized in the Three-Component Model. We draw attention here to findings of particular relevance to theory and practice.

First, consider the correlations between commitment, particularly affective commitment, and those variables we described as “correlates” (i.e., job satisfaction, job involvement, and occupational commitment). Although strong, the correlations are not of sufficient magnitude to suggest construct redundancy. The strongest correlation is between affective commitment and overall job satisfaction. This might be attributable to the fact that global satisfaction measures often include items pertaining to satisfaction with the organization itself or its management (Meyer, 1997). Interestingly, the correlations between affective commitment and satisfaction with specific facets of the job are considerably weaker. It is fair to conclude, therefore, that job satisfaction and affective organizational commitment should both be considered in efforts to understand and manage employee behavior (cf. Tett & Meyer, 1993).

The strong positive correlation between occupational commitment and affective commitment to the organization might have practical implications. Although this positive correlation does not preclude the possibility of conflict between the two commitments (cf. Wallace, 1993), it suggests that conflict might be the exception rather than the rule. Given that occupational commitment has been found to contribute beyond organizational commitment to organization-relevant outcome variables such as retention and OCB (Meyer et al., 1993), organizations might be able to benefit from efforts to foster occupational commitment without fear of undermining organizational commitment.

Turning to findings pertaining to antecedents, we extended Mathieu and Zajac’s (1990) findings by demonstrating that demographic variables play a relatively minor role in the development of organizational commitment, regardless of its form. By contrast, work experiences were found to have much stronger relations, particularly with affective commitment. These findings support the argument that attempts to recruit or select employees who might be predisposed to being affectively committed will be less effective than will carefully managing their experiences following entry (Irving & Meyer, 1994; Meyer, Bobocel, & Allen, 1991).

Of the work experience variables included in our analysis, perceived organizational support has the strongest positive correlation with affective commitment. This finding is consistent with Eisenberger, Huntington, Hutchison, and Sowa’s (1986) argument that organizations wanting affectively committed employees must demonstrate their own commitment by providing a supportive work environment. Among the things they can do to show support are to treat employees fairly and provide strong leadership. Consequently, it is not surprising that we also found that affective commitment correlates strongly with the various forms of organizational justice (i.e., distributive, procedural, and interactional) and with transformational leadership.

If organizational support is indeed a mechanism through which other variables influence affective commitment, it suggests that managers interested in fostering commitment among their employees might find guidance in the growing organizational support literature. That is, variables (e.g., human resource management policies and practices) that contribute to perceptions of support might indirectly

contribute to the development of affective commitment (see Hutchison, 1997; Meyer & Smith, 2001; Naumann, Bennett, Bies, & Martin, 1999). From a theoretical perspective, the advantage of identifying such mediating mechanisms is that they can provide order to what has, to date, been largely unsystematic attempts to investigate the “antecedents” of commitment (cf. Meyer & Allen, 1997; Reichers, 1985). If we know what the mediating mechanisms are, then we will be in a better position to explain *why* known relations exist (e.g., the relation between role conflict and affective commitment) and to search more systematically for influencing factors in future research (for a discussion of other potential mechanisms, see Meyer & Herscovitch, 2001).

With regard to the consequences of commitment, as expected, we demonstrated that all three forms of organizational commitment correlate negatively with withdrawal cognition, turnover intention, and turnover but that they correlate somewhat differently with other work behaviors (i.e., attendance, job performance, and OCB). Affective commitment has the strongest positive correlation with these desirable work behaviors, followed by normative commitment; continuance commitment is unrelated or negatively related to these behaviors.

Although generally consistent with prediction, the magnitude of the correlations between commitment and behavior are modest. These correlations, however, arguably underestimate the true impact that each component of commitment can have on behavior. Because commitment is a multidimensional construct, if each component exerts an independent influence on a specific behavioral tendency, then the correlation between any single component of commitment and a measure of that behavior will be moderated by the other components. For example, consider the relation between continuance commitment and turnover intention. Employees with high continuance commitment should intend to remain with their employer to avoid costs associated with leaving, regardless of their level of affective or normative commitment (i.e., any form of commitment should be *sufficient* to produce an intention to remain). The reverse, however, is not necessarily true. Low levels of continuance commitment should not lead to an intention to leave unless affective and normative commitment are also low. Therefore, the correlation between continuance commitment and turnover intention will be attenuated when the sample includes employees who are low in continuance commitment and high in affective or normative commitment. The same case can be made for the other two components of commitment. To get a better estimate of the effect of organizational commitment on behavior, it will be important in future research to examine the additive and interactive effects of the three components.

Finally, we noted in our introduction that researchers have only recently begun to examine the implications of commitment for employee-relevant outcomes such as stress, health and well-being, and work–nonwork conflict. Our results suggest that affective commitment might have benefits for employees as well as for organizations. Indeed, affective commitment is correlated negatively with both stress and work–family conflict. In contrast, continuance commitment correlates positively with stress and work–family conflict. Although we cannot make inferences

about causality from our data, it is possible that having a sense of being “trapped” in an organization is both stressful for employees and a source of conflict in the home.

Dimensionality of Commitment

Two of the unresolved issues identified by Allen and Meyer (1996) pertained to the dimensionality of commitment. The first was concerned with whether affective and normative commitment are distinguishable constructs, and the second was concerned with whether continuance commitment is unidimensional. With regard to the first issue, we found that affective and normative commitment are indeed highly correlated. The correlation between the constructs, however, is not unity. Moreover, although affective and normative commitment show similar patterns of correlations with antecedent, correlate, and consequence variables, the magnitude of the correlations is often quite different. There are also notable differences in the moderating effects of geographic location on correlations involving affective and normative commitment.

Interestingly, the strength of the correlation between affective and normative commitment differed depending on whether they were measured using the original 8-item (Allen & Meyer, 1990) or the revised 6-item (Meyer et al., 1993) version of the scale. This difference might help to explain the relation between affective and normative commitment. Recall that the 8-item version of the NCS was based on Wiener's (1982) conceptualization of normative commitment and emphasizes the internalization of social values (e.g., “I was taught to believe in the value of remaining loyal to one organization”). The 6-item version, in contrast, focuses more directly on the sense of obligation to remain in the organization regardless of the origin of this obligation (e.g., “Even if it were to my advantage, I do not feel it would be right to leave my organization now”). That is, it allows for the possibility that employees can develop a sense of obligation to their organization for reasons other than socialization, including the receipt of benefits that invoke a need for reciprocity (cf. Meyer & Allen, 1991; Scholl, 1981). Perhaps positive experiences that contribute to strong affective commitment also contribute to a feeling of obligation to reciprocate. If so, this might also help to explain why most of the work experience variables that correlate with affective commitment also correlate positively, albeit less strongly, with normative commitment.

Even if there is a strong natural link between affective and normative commitment, it does not rule out the possibility that employees can experience an obligation to pursue a course of action in the absence of a desire to do so. It does suggest, however, that to detect the unique impact of obligation on behavior, it is necessary to control for the influence of desire. Studies that have used regression analyses to assess the independent contributions of affective and normative commitment in the prediction of organizational behavior have yielded mixed results; some studies demonstrated significant increments in predictions for normative commitment (e.g., Lee, Allen, Meyer, & Rhee, 2001; Meyer et al., 1993), and others did not

(e.g., Jaros, 1997; Ko et al., 1997). Taken together, these findings suggest that affective and normative commitment are not identical constructs, but more work is needed to understand what normative commitment is, how it develops, and whether it contributes uniquely to the prediction of behavior.

With regard to the dimensionality of continuance commitment, we found that the two subcomponents, perceived sacrifice and lack of alternatives, are more highly correlated than initially reported by McGee and Ford (1987) and that their correlations with both affective and normative commitment are indeed opposite in sign. Even more important, perhaps, is the fact that the sacrifice subcomponent has a stronger negative correlation with withdrawal cognition and turnover intention than does the alternatives subcomponent. In light of these findings, it appears that the CC:HiSac subscale is a better operational definition of Becker's (1960) "side bet" view of commitment than is the CC:LoAlt subscale. Thus, it might be advisable to refine the CCS for future research, perhaps by including more items to reflect perceived sacrifice.

Generalizability of the Model Outside North America

The third issue identified by Allen and Meyer (1996) concerned the generalizability of the model outside North America. Although there are still not enough studies to do a systematic cross-cultural comparison, our findings do help to address the generalizability issue and, when considered in conjunction with other recent research, also give some direction to future research. Interestingly, although we found some differences, for the most part, the results were very similar for studies conducted within and outside North America. The similarities are important because (a) they suggest that the Three-Component Model might indeed be generalizable and (b) they increase our confidence that any differences observed are meaningful (i.e., they reflect true cultural differences rather than artifact [cf. Campbell, 1964]).

Among the more notable differences were the correlations among the commitment components, particularly between affective and normative commitment. The correlation between these two forms of commitment is greater in studies conducted outside North America. This might suggest that the constructs themselves are more closely related in other cultures (i.e., the difference between desire and obligation is less distinct). It is also possible, however, that the greater overlap results from difficulties in translation. For example, Lee et al. (2001) found that when the scales were translated into Korean using standard back-translation procedures, it was not possible to reproduce the three-factor structure typically reported in North American studies (cf. Ko et al., 1997). This problem was addressed by using the construct definitions to write items specifically tailored to the Korean culture. Wasti (1999) also found that the constructs could be distinguished in a Turkish sample when she used culture-specific items. Thus, in future research, it will be important to distinguish clearly between translation-based and culture-based differences in cross-cultural comparisons (for a more detailed discussion, see Allen & Meyer, 2000).

Gaps in Existing Research

Perhaps the most obvious gap in research pertaining to the Three-Component Model concerns the development of continuance and normative commitment. Continuance commitment presumably develops as individuals make “side bets” (Becker, 1960) or investments that would be lost by discontinuing a course of action. We found relatively few studies that measured investments directly. Our analysis of these studies revealed a relatively weak correlation with continuance commitment. The fact that investments can be very idiosyncratic might explain both the paucity of studies and the weak correlations. Interestingly, we did find that continuance commitment correlated negatively with perceived transferability of skills and education. That is, those employees who believed their skills and education would not transfer easily to another organization had higher continuance commitment. The time and energy put into acquiring organization-specific knowledge and skills might be one form of investment that is fairly widespread.

Given the difficulties associated with direct measures of investments, it has long been assumed that age and tenure might be good proxy measures for the accumulation of investments. Our findings suggest that this is not the case (cf. Cohen & Lowenberg, 1990; Meyer & Allen, 1984). The correlations between continuance commitment and age and tenure, although positive, were weak and similar in magnitude to those for affective and normative commitment. A better index of the costs associated with leaving might be employees’ perceptions of comparable alternative employment opportunities. In thinking about alternatives, employees might consider what they would have to give up if they were to switch employers. Accordingly, we found that perceived alternatives correlated negatively with continuance commitment and that the magnitude of the correlation was greater than for affective and normative commitment.

Despite the difficulties associated with the measurement of its antecedents, it is important to continue to investigate how continuance commitment develops. Because continuance commitment is unrelated, or even negatively related, to desirable on-the-job behavior, interest in its development might be stimulated more by a desire to *avoid* creating continuance commitment in attempts to foster affective commitment. To illustrate, consider how the increasingly widespread use of retention bonuses might influence employee commitment. Paying employees to stay in an organization could lead to higher affective commitment if it contributes to perceptions of personal competence (Mathieu & Zajac, 1990). However, it could lead to continuance commitment if it merely makes salient what employees have to lose if they leave. Therefore, among other things, we need to know more about how interventions designed to increase retention will be perceived by employees.

There has been even less attention given to the development of normative commitment. None of the antecedents of normative commitment identified in Fig. 1 received sufficient investigation to warrant inclusion in our meta-analyses. One reason for this might be that the hypothesized antecedents of normative commitment (i.e., socialization and organizational investments) are difficult to measure. Both socialization experiences and organizational investments are likely to be

idiosyncratic and difficult to capture using standard research instruments. Given that socialization experiences might vary considerably across cultures, it is possible that cross-cultural research will provide greater insight into the development of normative commitment in the future.

Another potentially fruitful avenue for research on the development of normative commitment might be to consider individual differences, such as personal values and dispositions, that reflect cultural socialization. For example, two recent studies (Clugston, Howell, & Dorfman, 2000; Wasti, 1999) found that individual differences in cultural values (e.g., collectivism and power distance [Hofstede, 1980]) correlated positively with normative commitment to the organization. Given that normative commitment correlates positively with desired outcome variables (e.g., performance, OCB), there might be value in continuing this line of research.

Future Directions: A Call for New Strategies

This meta-analytic review has allowed us to take stock of what we know and do not know about the meaning, development, and consequences of organizational commitment. We conclude by illustrating how what we have learned about the commitment process is limited by the way in which it has been studied and by suggesting new strategies for future research. We focus specifically on three issues: assessment of causality, interactions among the components of commitment, and cross-cultural comparisons.

To date, most research conducted to investigate the development and consequences of commitment has been cross-sectional and correlational. Although our meta-analyses suggest that the pattern of correlations is generally as predicted, the fact that we are dealing with correlations makes it impossible to verify the direction of causality. We need more research using experimental, quasi-experimental, or longitudinal designs that are better suited to detecting causal effects. The prevalence of organizational change might provide an excellent opportunity for researchers to examine the impact of changing conditions as they unfold or to experiment with alternate strategies for introducing change (e.g., see Schweiger & DeNisi, 1991).

The fact that the components of commitment correlate as predicted with the outcome variables is encouraging, but it does not address Meyer and Allen's (1991, 1997) contention that commitment-relevant behavior can best be understood by examining employees' commitment profile (i.e., the interactions among the commitment components). Earlier, we noted that failure to consider interactions among the components of commitment might help to explain why the correlations with behavior are modest. Only a few studies to date have tested for interactions among the components (e.g., Jaros, 1997; Randall, Fedor, & Longenecker, 1990; Somers, 1995). This is an important direction for future research.

Finally, as we noted earlier, research based on the Three-Component Model is increasingly being conducted outside North America. Our findings suggest that the model might indeed be applicable in other countries and cultures. We found sufficient differences across geographic location, however, to suggest that care should

be taken in attempting to apply the model and measures outside North America. Important lessons can be learned from studies that have experimented with issues of translation and item generation within non-North American cultures (e.g., Lee et al., 2001; Wasti, 1999), but what is needed is more systematic cross-cultural research in which relations among the constructs are examined in the context of existing theories of cultural differences (e.g., Hofstede, 1980, 1991). Such research would make a particularly valuable contribution to our understanding of commitment in the global economy.

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Note. An asterisk (*) indicates that the article, manuscript, or presented paper was included in the meta-analyses.

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