

**Measures of New Constructs or Old Ones?**

**The Case of Organizational Commitment  
and Job Satisfaction**

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**RUNNING HEAD: DISCRIMINANT VALIDITY OF ATTITUDE MEASURES**

This paper has not undergone formal review or approval of the faculty of the ILR School. It is intended to make the results of Center research, conferences, and projects available to others interested in human resource management in preliminary form to encourage discussion and suggestions.

**Abstract**

The construct validity of organizational commitment has recently been investigated in several studies. The authors of these studies have concluded that organizational commitment is a valid construct, sufficiently distinct from job satisfaction. Our re-analysis of data reported in these studies, however, suggests that the construct validity evidence is unconvincing. Analysis of meta-analytic results cast further doubt on the discriminant validity of organizational commitment as typically measured. Based on these findings, suggestions for future research are offered.

### **Measures of New Constructs on Old Ones?:**

#### **The Case of Organizational Commitment and Job Satisfaction**

Theories posit relations between abstract concepts or constructs. To test such relations, however, these abstract constructs must be operationally defined using concrete measures. Correct inferences regarding casual relations (internal validity) depend on the correspondence between the operational measures and the abstract constructs (construct validity). Schwab (1980) has argued that research in the applied behavioral sciences has "suffered" because of the inadequate attention that generally has been given to construct validity issues (see also Ilgen, 1987).

A critical requirement of construct validity is demonstrating that measures purporting to measure different constructs indeed do so. This evidence of differentiation (or discriminant validity, Campbell & Fiske, 1959) is also important from the perspective of scientific parsimony (Schwab, 1980). Proposed measures of new constructs must add sufficient incremental explanatory power to justify their use. Otherwise, a proliferation of conceptually different, but perhaps empirically redundant, measures may result in a consequent "Tower of Babel" -- scientists assigning different construct labels to the same operations or measures. In such a case, there is likely to be a degradation in the advancement and communication of knowledge, seriously hindering scientific progress and the success of practical applications.

Schwab (1980) cited the case of job involvement and job satisfaction measures as a case of possible empirical redundancy among what were defined as unique constructs. He note that each exhibited roughly the same pattern of correlations with external variables, including hypothesized consequences of job satisfaction such as absenteeism, performance, and turnover. He also pointed out that job involvement correlated more highly with specific facets of job satisfaction than did different facets of job satisfaction. He concluded that it

may not be appropriate to identify "as measures of new constructs instruments [that] correlate more highly with satisfaction measures than alternative [satisfaction] measures" (p. 24). An implication is that researchers and practitioners focusing on ways of raising job involvement might have done better to spend their time in some other manner because purported measures of job involvement were actually tapping into job satisfaction, something we already know a good deal about how to influence.

More recently, a study by James and James (1989) also raised questions about the uniqueness of measures of different work-related constructs. They demonstrated that measures intended to reflect four conceptually distinct concepts (leader facilitation and support; role stress and lack of harmony; job challenge and autonomy; workgroup cooperation, warmth and friendliness) could be explained by a single underlying second-order factor they labeled psychological climate. They suggested that a "general perceptual factor of personal benefit versus personal detriment furnishes a theme for unifying perception of work environments" (p. 750). They also suggested that future research was needed to determine whether the general perceptual factor they found could be distinguished from overall job satisfaction, particularly in view of the average (across samples) correlation of .89 (from their Table 8) between overall job satisfaction and psychological climate.

In this paper, we focus on measures of two widely used and researched constructs, organizational commitment (OC) and overall job satisfaction (OJS), and examine whether the measures can reasonably be described as reflecting unique constructs. We believe this focus on two heavily researched measures may have wider implications for the question of whether measures intended to tap new constructs actually do so. If there is a problem with carefully developed measures of OC, problems with less well-developed measures may be worse.

Before proceeding we also should comment that our purpose in this paper is limited to investigating the construct validity of organizational commitment as typically measured.

As we indicate later, more theoretical work on OC certainly is warranted. However, our goal, rather than proposing theories about OC or the difference between OC and OJS, is to examine the construct validity of OC in hope of re-directing research in the area. In fact, we close by offering substantive recommendations for future research based on our findings.

### **Construct Definitions and Measures**

Locke (1976) defined OJS as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (p. 1300). It is "a function of the perceived relationship between what one wants from one's job and what one perceives it as offering" (Locke, 1969). Mowday, Steers, and Porter (1979) defined OC as

the relative strength of an individual's identification with and involvement in a particular organization....[it] represents something beyond mere passive loyalty to the organization. It involves an active relationship with the organization such that individuals are willing to give something of themselves in order to contribute to the organization's well-being (p. 226).

Thus, Mowday et al. (1979) suggested that OC has three components: (a) a strong belief and acceptance of the organization's values and goals; (b) a willingness to exert considerable effort on behalf of the organization; and (c) a strong desire to maintain membership in the organization.

Mowday, Porter, and Steers (1982) drew two conceptual distinctions between OC and OJS. First, OC "is more global, reflecting a general affective response to the organization as a whole" whereas job satisfaction "reflects one's response to one's job or certain aspects of one's job" (p. 28). Second, they hypothesized that OC would be more stable over time than OJS because "day-to-day events in the work place may affect an employee's level of job satisfaction, [but] such transitory events should not cause an employee to reevaluate

seriously his or her attachment to the overall organization" (p. 28). Unfortunately, as we will demonstrate later, there is little evidence to validate either of these conceptual distinctions.

There have been other definitions of OC. For example, although Mowday et al. (1979) focus on attitudinal OC, Becker's (1960) work has been the basis for research on calculative OC, defined as "a structural phenomenon which occurs as a result of individual - organizational transactions and alterations in side-bets or investments over time" (Hrebiniak & Alutto, 1972, p. 556). In essence, this definition focuses on the point at which an individual is indifferent between their present job and possible alternatives. The lower the indifference point, the more committed to the organization the worker is assumed to be. Finally, Salancik's (1977) work on behavioral commitment, related to Becker (1960), also has represented an important stream.

As Mathieu and Zajac (1990) pointed out, other attitudes have also been argued to represent OC. Examples include continuance commitment (McGee & Ford, 1987; Meyer & Allen, 1984) as a variation of calculative commitment, the Protestant work ethic (Blood, 1969), job involvement (Kanungo, 1982; Rabinowitz & Hall, 1977), professional commitment (Lachman & Aranya, 1986), normative commitment (Wiener, 1982), and organizational identification (Hall, Schneider, & Nygren, 1970). Morrow (1983) has argued that these variations of an OC construct are insufficiently distinct to merit continued separation.

Clearly, however, the Mowday et al. (1979, 1982) attitudinal OC definition has been the predominant focus in the literature (Mathieu & Zajac, 1990). To measure OC, Porter, Steers, Mowday, and Boulian (1974) developed the Organizational Commitment Questionnaire (OCQ), by far the most widely used measure of OC (Mathieu & Zajac, 1990). The OCQ asks respondents to indicate their agreement with 15 items. The scale anchors

range from 1 = strongly disagree to 7 = strongly agree. The items are a mix of attitudes ("For me this is the best of all possible places to work" and "I really care about the fate of this organization") and behavioral intentions ("I would accept almost any type of job assignment in order to keep working for this organization" and "There's not much to be gained by sticking with this organization indefinitely").

### **Previous Construct Validity Evidence**

Despite the considerable amount of substantive research using the OCQ, several questions have been raised regarding its construct validity. For example, Hulin (1991) notes that "research on OC seems to have been unnecessarily imprecise in both the conceptual development and the operationalization of these developments" (p. 77). Brooke, Russell, and Price (1988) pointed out that because OC is typically defined as an affective response, it raises a question as to whether it is conceptually distinct from OJS. Morrow (1983) argued that whether individuals can distinguish between attachment to jobs and organizations is far from clear from past research, which, as indicated earlier, is central to conceptual distinctions between OC and OJS.

Mowday et al. (1979) provided some evidence relevant to the discriminant validity of OC. Across 5 samples, Mowday et al. found the median correlation between the OCQ and facet satisfactions of the Job Descriptive Index (JDI; Smith, Kendall, & Hulin, 1969) to be .41. Mowday et al. interpreted these correlations as "sufficiently low to provide some indication of an acceptable level of discriminant validity," but also noted that their magnitude was "clearly higher than might be desired to demonstrate conclusively discriminant validity" especially considering that the correlations were not corrected for measurement error. We also note that the median uncorrected correlation between OC and work satisfaction was .60, which should perhaps have been troublesome given that OC is meant to focus more on organization than job reactions.

Porter et al. (1974) presented results that suggested some differences between facet satisfaction and OC in predicting turnover over time. However, Hom, Katerberg, and Hulin (1979) found no significant difference between satisfaction and OC in predictions of turnover once turnover intentions (a prominent feature of the OCQ) was partialled out. In general, Hulin (1991) has argued that the advantage of an OC model over an OJS model in predicting behavior is unknown.

Construct validity concerns regarding OC were also expressed by Mathieu and Zajac (1990). For example, they noted that the relation between OC and OJS required further attention and called on researchers "to specify more clearly how different affective responses are interrelated, and how they are linked to various antecedents" (p. 184). Extending this logic would also include examining links with consequences and, more generally, correlates. Two recent studies have been responsive to this suggestion.

First, a study by Brooke, Russell, and Price (1988) provided some such evidence. In addition to OC and OJS, they examined job involvement (JI). OC was measured by a 9-item version of the OCQ, OJS was measured by an adapted form of the Brayfield and Rothe (1951) scale, and JI was measured by the 10-item scale developed by Kanungo (1982). Based on confirmatory factor analyses and correlations with seven external variables (pay, routinization, centralization, distributive justice, role stress, work involvement, and kinship responsibility), they concluded that OC, OJS, and JI were "three empirically distinct constructs" (p. 143). However, our examination of their results suggested that a single general factor might be as good or better of a model. If so, their conclusion of adequate discriminant validity between OC, JI, and OJS would be open to question.

Consider the Brooke et al. (1988) confirmatory factor analysis. The mean correlation between the three factors was .56, suggesting that a second-order general factor might account for the factor covariation. One way to illustrate this point is to assess the



homogeneity or internal consistency of a single factor based on OC, JI, and OJS. With 3 items and an average intercorrelation of .56, the internal consistency would be .79.<sup>1</sup> With 8 items (the mean number on each of the 3 scales Brooke et al. used), the internal consistency would rise to .91. The implication is that the OC, JI, and OJS items combine quite well to form a homogeneous measurement scale.<sup>2</sup>

Further, in what Brooke et al. (1988) referred to as "a more rigorous test of discriminant validity" (p. 142), external correlations of the OC, JI, and OJS factors with external variables (see above) were examined. As Brooke et al. noted, a model of equal correlations with external variables fit the data "well" (p. 143). But, relying on differences in chi square statistics, they found a statistically significant improvement in fit was obtained when the external correlations with the constructs were permitted to differ.

Recently, Mathieu and Farr (1991) sought to replicate Brooke et al.'s (1988) findings using two different samples. Like Brooke et al. they derived three separate factors representing OC, JI, and OJS. The correlations between OJS and OC were .784 in sample 1 and .697 in sample 2. Also using differences in chi square statistics to measure discriminant validity, Mathieu and Farr concluded that OC and OJS showed different patterns of correlations with external variables.<sup>3</sup>

Using chi square statistics to confirm proper models is far from conclusive proof of discriminant validity. Bentler and Bonnett (1980), La Du and Tanaka (1989), and Marsh and Hocevar (1985) have noted that with even relatively large sample sizes, chi square statistics, the fit index employed by Brooke et al. (1988) and Mathieu and Farr (1991), will often be statistically significant with even trivial differences in fit. Therefore, the evidence used by the above authors, given the relatively large sample sizes they employed (average sample size for the three samples was 357), by itself is not convincing proof that measures of OC and OJS are clearly distinct from one another. The magnitude of the differences is

practically important, yet may be masked by relying on chi square tests of significance.

In light of this, we thought it useful to examine the patterns of correlations OC and OJS have with common external variables. First, we examined Brooke et al.'s (1988) correlations between OC and OJS with external variables. As Figure 1 indicates, the patterns of external correlations were very similar. In fact, the correlation between the OJS and OC vectors of correlations was .957 ( $p < .01$ ). Next, we examined the correlations reported by Mathieu and Farr (1991). As with Figure 1, Figure 2 shows a clear similarity in the patterns of relations. Consistent with this similarity, we found a correlation of .982 ( $p < .01$ ) between the two vectors of correlations. Given the clear similarity in patterns of correlations of OC and OJS with external variables, we found the construct validity evidence far from compelling.

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Finally, recall that Mowday et al. (1982) suggested that OC and OJS differ on two key dimensions: (a) OC has more of an organization (versus job) referent, and (b) OC should be more stable. Regarding (a), Brooke et al. (1988) found that OJS and OC correlated roughly the same with JI (OJS, .591, OC, .547). Mathieu and Farr (1991) found correlations with JI in their two samples of .592 and .275 for OJS and .733 and .450 for OC. Thus, OC was more highly correlated with JI than was OJS. Moreover, in their first sample, Mathieu and Farr collected data on perceptions of human resource management, which seemed to have a company (versus job) focus. Each perceptions of human resource management scale item involved company actions (e.g., the degree to which the company shares information, involves employees in decisions, makes work assignments in a fair manner). Nevertheless, their correlation with OC (.666) was actually somewhat smaller

than its correlation with OJS (.732), again failing to support the Mowday et al. hypothesis that OC is more organization-oriented than OJS.

With respect to (b), the only study we found that reported test-retest correlations for both OJS and OC was conducted by Bateman and Strasser (1984). They found a 5 month test-retest correlation of .65 for OC, .68 for OJS. In other words, OC was not found to be more stable than OJS. Evidence presented by Lee, Ashford, Walsh, and Mowday (in press) shows substantial deviations from a clear pattern of stability in OC (e.g., a test-retest correlation of .33 over roughly a one year time period) with a sample of Air Force cadets. In summary, there is little evidence to support either of the two specific distinctions between OJS and OC hypothesized by Mowday et al. (1979, 1982).

#### **New Construct Validity Evidence: Secondary Analyses**

Given these findings, the questions regarding the discriminant validity evidence provided by Brooke et al. (1988) and Mathieu and Farr (1991), and our more general concerns regarding the construct validity (especially discriminant validity) of different work attitude measures, we decided to delve further into the evidence regarding the specific case of OC and OJS. We relied upon several meta-analyses and measurement studies to obtain additional (and presumably more precise given the large number of samples and corrections for artifacts in meta-analyses) empirical evidence regarding the question of whether OC measures are distinct from OJS measures.

Based on the Mathieu and Zajac (1990) meta-analysis, the mean correlation (corrected for unreliability) between OJS and OC is .533. Of the 34 hypothesized antecedents and consequences of OC they examined, only two exhibited higher correlations with OC (perceived personal competence, .630, and intention to search, -.599). The corrected mean correlation between OJS and attitudinal OC is .69 (Mathieu & Zajac, 1990). Although this correlation falls well short of unity, it is typical for correlations among

alternative measures of the same construct to be less than perfect (Judge, 1990). A more relevant comparison may be correlations between alternative multiple item measures of OJS. As one example, the corrected correlation between the Job in General (JIG) scale (Ironson, Smith, Brannick, Gibson, & Paul, 1989) and a simple composite of JDI items is .73 (based on correlations reported by Ironson et al.). As another example, our re-analysis of the Gillet and Schwab (1975) data found the corrected correlation between the JDI composite and the Minnesota Satisfaction Questionnaire (MSQ) composite to be .796. In other words, the correlation between OJS and OC is of nearly the same magnitude as the convergent validity between alternative measures of OJS.

A second analysis compared the patterns of correlations between OJS and attitudinal OC with external variables. Table 1 reports the mean corrected correlations, the studies from which they are drawn, and z tests of differences. Of the 13 comparisons, 7 indicate statistically significant ( $p < .05$ ) differences in the magnitudes of the OC and OJS correlations. The fact that little more than half of the OC and OJS correlations with external variables differ significantly casts some doubt on the discriminant validity of OC and OJS with respect to many variables. However, it also should be noted that the mean sample sizes for the OC and OJS correlations were 3,847 and 5,875, respectively. In other words, even very small differences in correlations are statistically significant because of the extremely strong statistical power. For example, correlations of .365 and .400 (a difference of only .035) will differ at the  $p = .05$  level with these sample sizes. Therefore, it is especially important here to move beyond sole reliance on statistical significance levels in examining the magnitude of the differences in correlations and the degree of similarity in the patterns.

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Insert Table 1 About Here  
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The average absolute difference between the 13 pairs of correlations is .06 (.04 if the JDI-work correlations are excluded). Further, as Figure 3 shows, the overall patterns of correlations are highly similar. In fact, as Table 1 reports, the correlation between the two vectors of correlations is .99 ( $p < .01$ ), suggesting a very high degree of similarity in the patterns of correlations of OC and OJS with external variables. The main distinction between the patterns is the substantially higher correlation of OJS with work facet satisfaction.

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Insert Figure 3 About Here  
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The overall strong degree of similarity in the patterns is particularly striking when one considers that the pairs of mean correlations came from the same source in only 4 of 13 cases. Thus, the differences in correlations shown in Table 1 are not solely a result of differences in measures. Rather, between study differences in samples and the related differences in range restriction, measurement error and other artifacts likely contribute to variation in the correlations (Hunter, Schmidt, & Jackson, 1982). Even OC and OJS correlations taken from the same meta-analysis are not entirely based on the same samples. The implication is that the differences in correlations reported in Table 1 may overestimate the true differences.

Of course it is true that structurally related but empirically distinct variables would be expected to show somewhat similar patterns of correlations with other variables. However, it is also true that judgments of the consequence of this difference will almost always be an

issue of the degree of the difference. Moderate correlations between the profiles would not be troubling. The extremely high correlations observed, on the other hand, leads one to question the empirical distinction between the purported constructs. In light of these results, one must doubt the practical significance of distinguishing OC (as typically measured) from OJS. Further, we view these results as more conclusive evidence than differences in chi-square tests using LISREL. While chi-square tests have the advantage of allowing assessment of overall statistical significance, their practical relevance is dubious -- they tell us nothing about how to substantively interpret the differences. Our results suggest that when one does substantively interpret the differences between OC and OJS, the differences are generally quite small.

In any case, it is interesting to focus on some of the specific comparisons. First, although Mowday et al. (1979, 1982) argue that OC has an organization referent and is, therefore, less closely linked to job conditions than OJS, only 1 of the 5 OC correlations with specific facets of job satisfaction is statistically significantly different from the corresponding OJS correlations. On the other hand, the magnitude of the OC correlations is generally smaller (pay satisfaction is the exception). The OC correlation with work satisfaction is substantially smaller than the corresponding OJS correlation. This is consistent with arguments made by Judge (1990) that work satisfaction more closely approximates general or overall job satisfaction than the other facets.

Second, because Mowday et al. (1979, 1982) emphasized that committed employees should be willing to exert considerable effort and have a strong attachment to the organization, the correlations with performance, turnover, and turnover intention variables are also very relevant. Contrary to the Mowday et al. hypotheses, the OC correlations with performance and turnover intention are smaller than the corresponding OJS correlations with these variables. The turnover correlations, on the other hand, are consistent with their

hypothesis. However, the discrepancy between these and the turnover intention correlations is odd and probably indicates the need for caution in comparing across meta-analyses that include different mixes of samples and measures.

A final type of evidence concerns the correlation between OC and external variables, controlling for OJS. To the degree that these partial correlations are large, then OC has "value added" in explaining variance in external variables beyond that accounted for by OJS. In contrast, to the extent that the partial correlations are small, it could be taken as evidence that OC measures are redundant with OJS measures.

The top one-third of Tables 2 (corrected simulated correlations) and 3 (uncorrected simulated correlations) suggest that 46-56% of the correlation between OC and hypothesized consequences of OC (based on the Mathieu & Zajac, 1990, model) is eliminated when OJS is controlled. This finding appears to suggest that measures of OC contribute explanatory power beyond that provided by OJS.

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Insert Tables 2 and 3 About Here  
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On the other hand, it is quite possible that a similar level of added explanatory power would be found if multiple measures of the same constructs were to be used. For example, what degree of unique variance would be contributed by a measure of OJS, after partialling out a second measure of OJS? The bottom two-thirds of Tables 2 and 3 provide some evidence on this question. The correlations between OC consequences and OJS as measured by first, a JDI-composite (middle third of the tables) and second, the Brayfield-Rothe (1951) scale are reduced by 52-58% and 75-76%, respectively, after controlling an alternative measure of OJS. These findings imply that the OC correlations with external variables are reduced somewhat less than OJS correlations with external variables after controlling for

other measures of OJS. However, the incremental explanatory power of OC measures is approximately the same as the incremental explanatory power of one of the alternative OJS measures.

### Discussion

A number of authors have voiced concerns about the discriminant validity of measures of conceptually distinct work attitudes (e.g., Campbell & Fiske, 1959; James & James, 1989; Schwab, 1980). Specific attention has been focused on the discriminant validity of the OCQ, developed by Porter et al. (1974) to measure attitudinal OC (Hulin, 1991; Mathieu & Zajac, 1990; Morrow, 1983). Two recent empirical studies (Brooke et al., 1988; Mathieu & Farr, 1991) reached the conclusion that the OCQ is distinct from measures of job satisfaction (and job involvement), based on evidence from factor analyses and correlations with external variables.

In contrast, our interpretation of the Brooke et al. (1988) and Mathieu and Farr (1991) results, as well as our re-analysis of other evidence, suggests a less positive interpretation of the OCQ's discriminant validity. Specifically, we believe the following results are troublesome. First, the correlation between measures of attitudinal OC such as the OCQ and measures of OJS approaches the magnitude of correlations between alternative measures of OJS (i.e., OJS convergent validities).

Second, the pattern of correlations between OC and external variables is strikingly similar to the pattern displayed by measures of OJS. Third, although OC measures explain incremental variance in behavioral outcomes (controlling for OJS), nearly the same level of incremental variance is explained by instead using a second measure of OJS (controlling for the same measure of OJS as above). This again points to the possibility that OCQ-like measures behave in the same manner as OJS measures. Fourth, contrary to the Mowday et al. (1979) hypotheses, there is little evidence to suggest that OC measures are either (a)



more stable than OJS measures, or (b) more closely linked to organization (versus job) referents than are OJS measures.

Two pieces of evidence were more consistent with the Mowday et al. (1979) hypotheses. First, although the patterns were the same, the OC correlations with facet satisfactions tended to be somewhat smaller than the OJS correlations. This difference was most pronounced in comparing the OC and OJS correlations with work satisfaction. Second, OC displayed stronger relations with turnover than did OJS, consistent with the idea that OC measures focus more heavily on an employee's attachment to an organization. The strength of this support is, however, probably tempered somewhat by the fact that OC the measures actually exhibited smaller correlations than OJS measures with turnover intentions.

What then is the bottom line regarding the construct validity of the OCQ and similar measures of attitudinal OC? Although any such conclusion is necessarily subjective, we do not believe there is enough evidence to conclude that attitudinal measures of OC are sufficiently distinct from OJS measures. Based on our review, one can make a fairly strong case that OC measures behave much like OJS measures. If true, it is not clear what OC measures add to our understanding. Nor is it clear, on a practical level, that using OC to predict perceptions and behaviors adds much to prediction or understanding of those perceptions and behaviors.

However, we wish to make clear that our concerns about the measures do not necessarily represent an indictment of the OC construct. Although there has been some criticism of the OC construct definition (Hulin, 1990), the general notion that OC may be an important concept in the study of work attitudes and behaviors does not seem to be a point of contention. As such, we do not wish to discourage research on OC. But, it may be advisable to move away from, at least temporarily, a substantive research focus to more of a construct validity focus. The latter may require both conceptual and measurement scale

modifications. Of course, the two are closely related -- the measure can only be as good as the construct definition.

On the conceptual side, it may be useful to focus more attention on theoretical distinctions between OC and OJS. Some recent work may be useful in this regard. O'Reilly and Chatman (1986) argued that theories of attitude development are relevant to organizational commitment. Based on this premise, the authors proceeded to develop exchange, identification, and internalization as a means of conceptualizing individuals' commitment to the organization. Such theory-based research holds the promise of alleviating some of the measurement (and theoretical) problems with the commitment construct. Particularly helpful would be theories directed at explaining differences in the formation of commitment and satisfaction.

Another possibility, not contradicted by our results, is a hierarchical affective construct that may be manifested by specific affective responses (Hulin, 1991; James & James, 1989). It is possible, for example, that job satisfaction and organization commitment are simply alternative manifestations of an overall affective construct, labeled psychological climate by James and James (1989). The existence of such a construct in perhaps explaining the lack of distinction between OC and OJS deserves future research.

Although scale development must logically await changes to the conceptual framework, three steps seem advisable in the meantime. First, if attitudinal measures of OC continue to be used, further scale development work may be necessary. One important goal should be changing the scale composition to include items that are differentially related to important external variables such as turnover, turnover intentions, and performance. Second, if researchers choose to continue to use the OCQ or similar measures, they would do well to also include measures of OJS in their studies, in order to provide further evidence that will help in evaluating the accuracy of our conclusions regarding construct validity.

Third, it may be useful to make greater use of alternative definitions and measures of OC, such as calculative OC, for which the Mathieu and Zajac (1990) results seem to indicate potentially better discriminant validity.

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