

Building organizational commitment: A multifirm study

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Although much research has been conducted in the area of organizational commitment, few studies have explicitly examined how organizations facilitate commitment among members. Using a sample of 291 respondents from 45 firms, the results of this study show that rigorous recruitment and selection procedures and a strong, clear organizational value system are associated with higher levels of employee commitment based on internalization and identification. Strong organizational career and reward systems are related to higher levels of instrumental or compliance-based commitment.

While the construct of organizational commitment has received a great deal of attention in the organizational psychology literature, most of this attention has been directed towards identifying the consequences of having committed employees. Although the results of these studies are not always consistent, they suggest that commitment is positively associated with motivation and involvement (Farrell & Rusbult, 1981; Stumpf & Hartman, 1984), expressions of positive affect and loyalty (Kanter, 1968; O'Reilly & Caldwell, 1980), some aspects of job performance (Angle & Perry, 1981; Mowday, Porter & Dubin, 1974; Steers, 1977), and prosocial behaviour (O'Reilly & Chatman, 1986; Organ, 1988). Additionally, some studies suggest that commitment is negatively associated with potentially costly behaviours such as absenteeism (Angle & Perry, 1981) and the likelihood of turnover (Hom, Katerberg & Hulin, 1979; Porter, Crampon & Smith, 1976; Porter, Steers, Mowday & Boulian, 1974). Given that such positive outcomes apparently emerge from having committed members, it is surprising that relatively fewer studies have actually investigated what organizations can do to enhance such commitment.

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Antecedents to organizational commitment

Those studies which have attempted to identify the antecedents to commitment have linked variables such as personal or job characteristics, work experiences, organizational structure and size, and role-related factors to commitment (e.g. Lincoln & Kalleberg, 1985; Meyer & Allen, 1987; Morris & Sherman, 1981; Steers, 1977; Stevens, Beyer & Trice, 1978). Taken together, these studies have revealed few consistent findings (e.g. Mowday, Porter & Steers, 1982; Reichers, 1985; Schneider & Reichers, 1983). However, one clear implication is that early experiences in an individual's employment may have a large impact on the subsequent development of commitment (Buchanan, 1974; Louis, 1980). It is at this time that an individual may be particularly sensitive to organizational influence and the results of that influence most consequential (Bray, Campbell & Grant, 1974; Hall, 1976). What these findings suggest is that an individual's commitment to an organization may be shaped by the process through which he or she enters the organization (recruitment) and by those steps the organization takes to teach him or her about the organization's values, and how work is done (socialization). While researchers have implicitly suggested that organizational characteristics are linked to commitment among members (e.g. Etzioni, 1975; Kanter, 1968; Mowday *et al.*, 1982), almost no research exists which explicitly examines this link.

Some consistent, albeit indirect, evidence for the linkage between organizational practices and commitment does exist. On the recruitment side, factors such as confirmation of pre-entry expectations (Arnold & Feldman, 1982; Premack & Wanous, 1985) and role clarity (Morris & Koch, 1979) which are important at entry have been shown to be positively related to commitment to the organization. In fact, Feldman (1977) argues that the most effective types of realistic job previews are those which, in addition to giving balanced descriptions about the work itself, provide potential entrants with information about advancement opportunities and the general work climate within the organization. In addition, evidence shows that factors related to an individual's decision to accept a job offer can influence his or her subsequent commitment. For example, O'Reilly & Caldwell (1981) demonstrate that the volitionality and irrevocability of job choices are related to individual commitment for over a year following job acceptance. They argue, in part from dissonance theory, that certain aspects of an individual's job choice and particular experiences within the organization can serve to 'bind' the individual to that organization and affect both commitment and turnover.

Specific socialization practices may affect commitment as well. Through socialization processes managers can attempt to foster better employee understanding of organizational values, norms and objectives (cf. Kanter, 1968; Pascale, 1985; Van Maanen & Schein, 1979). Van Maanen & Schein (1979) have made a distinction between the content of socialization, or *what* is taught to new employees, and the process of being socialized, or *how* the information is transmitted to new members. While both are important, Van Maanen & Schein's model highlights the process aspects. Using Van Maanen & Schein's (1979) socialization model, Jones (1986) empirically investigated the socialization process. His findings suggested that the extent to which socialization patterns were 'institutionalized' in an organization was related to commitment. Jones (1986) demonstrated that individuals who reported that their socialization experiences were formalized, supportive, and followed a fixed timetable and sequence also reported greater commit-

ment to the organization than did individuals reporting a less institutionalized pattern of early experiences.

Pascale (1985) presents a useful approach by incorporating both recruitment and socialization issues, as well as content and process issues. He argues that companies with effective recruitment and socialization programmes use a specific set of techniques. Among these are: (1) careful recruitment and selection; (2) experiences designed to promote a willingness to learn about and to accept the values and practices of the new organization; (3) career paths which are based on extensive exposure to the central functional area of the business; (4) careful use of training, reward and control systems to emphasize key behaviours; and (5) the reinforcement of central values through folklore and consistent role models. Although Pascale's observations are based on interviews of individuals in a small sample of companies, the processes he describes are similar to those that are associated with behavioural commitment (Kiesler, 1971; Salancik, 1977) and conversions to religious sects (Galanter, 1980, 1982). The purpose of the current study is to further examine how organizational recruitment and socialization processes can influence individual members' commitment to their employing organizations. In doing so, we will focus on the techniques suggested by Pascale as effective in building organizational commitment.

Defining and measuring organizational commitment

Developing a clear understanding of the antecedents to commitment has been hampered by some ambiguity in the definition and measurement of the construct itself. Morrow (1983), for example, notes that there are over 25 commitment-related concepts or measures. And as Staw (1977) has observed, it is difficult to separate the concept of commitment from other affective concepts such as motivation, satisfaction and involvement. The mixed nature of the construct is demonstrated in the Organizational Commitment Questionnaire, one of the most commonly used measures of commitment (Porter *et al.*, 1974). Specifically, this instrument includes three constructs: intentions, motivations and values. At least three of the questions on the OCQ measure a person's intent to behave (e.g. 'I would accept almost any type of job assignment in order to keep working for this organization'), while other items focus on commitment as a motive (e.g. 'This organization really inspires the very best in me in the way of job performance'), or commitment as value agreement (e.g. 'I find that my values and the organization's values are very similar'). This ambiguity has made it difficult to compare results of studies and to develop appropriate tests of the antecedents to commitment (McGee & Ford, 1987; Meyer & Allen, 1984).

O'Reilly & Chatman (1986) argue that commitment is best defined as the basis of an individual's psychological attachment to the organization. This basis of attachment is distinct from either the antecedents of commitment or from its consequences. Drawing from Kelman (1958), they argue that commitment to an organization is predicated on three separate bases of attachment: compliance, identification and internalization. Compliance refers to instrumental attachment undertaken for specific rewards; identification refers to attachment based on a desire for affiliation with the organization; and internalization refers to congruence between individual and organization values. O'Reilly

& Chatman (1986) further demonstrate that the consequences of commitment vary according to the individual's basis of attachment.

A similar argument is likely to hold true for the antecedents of commitment; that is, particular policies and perceptions on the part of new entrants may be associated with one form of commitment but not with others. For instance, organizations whose recruitment practices clarify the organizations' values for potential employees are more likely to select for and enhance internalized attachment among new recruits than are organizations who do not screen applicants for value congruence. This is because if values are clear and salient, candidates will have more information on which to determine if they agree with or can comfortably conform to those values, and organizations can more easily match prospective candidates both to the specific job and the organization culture (Chatman, 1989; O'Reilly, Chatman & Caldwell, 1989).

In addition to the ambiguities in measurement, two other factors may make it difficult to draw concrete conclusions about the relationship between an organization's practices and individual commitment. These are the reliance on individual reports of both commitment and other variables of interest, and the tendency to draw samples from a relatively small number of organizations. In the first instance, many studies of commitment potentially suffer from a response-response bias. In a typical commitment study, respondents are asked to provide self-reports of both their level of commitment as well as of other antecedent or consequent variables. Even when data are collected longitudinally, this response bias may be problematic since commitment can be viewed either as a prospective process or a retrospective process through which the individual justifies previous actions (O'Reilly & Caldwell, 1981; Salancik, 1977). In addition, because they sample subjects from a single or few organizations, many studies are unable to investigate differences in recruitment and socialization policies across organizations. Thus, a large sample of firms is desirable in order to ensure adequate variation in firm practices. Obviously one barrier to multifirm samples is their inaccessibility compared to single firms.

Although no multifirm studies exist which link firm recruitment and socialization practices to individual commitment, two general propositions can be offered. Drawing from Pascale (1985), one proposition is that more intensive recruitment practices should be associated with higher levels of individual commitment. A second proposition is that more intensive organizational socialization practices should be associated with higher levels of individual commitment. More specifically, this study tested three hypotheses:

Hypothesis 1: Recruitment processes which provide individuals with a realistic sense of what is expected, and which provide opportunities for individuals to choose *not* to join should be related to higher levels of commitment based on internalization and identification, but not compliance (e.g. O'Reilly & Caldwell, 1981; Premack & Wanous, 1985).

Hypothesis 2: Socialization processes which emphasize strong organizational values, through role models and management actions, should also be associated with higher levels of individual internalization and identification (e.g. Kanter, 1968; Ouchi, 1980).

Hypothesis 3: Socialization processes that rely on formal control and reward systems should be related to higher levels of compliance-based organizational commitment, and

lower levels of commitment based on internalization and identification (e.g. Etzioni, 1961; Jones, 1986).

Method

Information about organizational socialization processes and individual commitment was collected from 323 professional or technical employees of 47 firms. Data were collected from US firms in two industries. The first (sample 1) represented 196 employees of 39 high technology companies. The second (sample 2) consisted of 127 entry level accountants employed in the western regional offices of eight large public accounting firms. A total of 32 respondents was dropped from the analysis of the total sample because of incomplete data or because they belonged to a firm from which there were fewer than three respondents. This reduced the final sample size to 291 individuals in 45 firms.

Since we designed this study with the intent of minimizing common method biases which can be problematic in survey-based studies (cf. Abrahamson, 1983, p. 324), a brief overview of our general design is warranted. We asked individuals from participating firms to respond to a survey (described more fully below) which contained the two measurement instruments. The first measurement instrument, the Recruitment and Socialization Questionnaire (Pascale, 1985), was designed to query respondents about recruitment and socialization practices which are characteristic of their organization. The second instrument, the Commitment Questionnaire (O'Reilly & Chatman, 1986), was designed to get respondents to think about their own individual commitment to their employing firm. Once the surveys were completed, we aggregated the organization-level responses to the Recruitment and Socialization Questionnaire for each firm. Then we calculated scores for the organizational dimensions for each individual based on the aggregate of the others in the firm, but eliminated the focal individual's own score. The effect of such a calculation is to create separate organizational scores for each individual by averaging the factor scores of the other respondents in the same organization. Thus, the relationship between organizational practices and commitment is uncontaminated by consistency or response bias. Since the consensual firm ratings require multiple raters (and one respondent is always deleted in the aggregation), firms were only included in the analysis if we received responses from three or more respondents.

Subjects

Sample 1. An initial set of 55 participants in a mid-level management training programme for managers in electronics, or fully employed MBA students working for high technology companies, took part in the study. Each of these initial respondents was asked to recruit at least two other individuals in their company to participate in the study. All respondents were provided with surveys and return envelopes. For the entire set of subjects, the average firm tenure was 4.95 years with a fairly high variance ($SD = 5.79$). All but two of the respondents had attended college and over 85 per cent possessed at least a bachelors degree. One half of the respondents had supervisory positions.

Sample 2. The second set of respondents were graduates of university accounting programmes employed by eight of the largest public accounting firms. When surveyed, all had been members of their employing organization for approximately one year. All were employed in the auditing function. Respondents averaged 24.5 years in age, and 47 per cent were male. All possessed a bachelors degree and approximately 25 per cent also had an MBA degree.

An advantage of selecting these two samples was that we could assess a large number of firms within each industry (for example, the eight accounting firms conducted 85 per cent of the public auditing business—Emerson, 1987) and thus variance in recruitment and socialization practices across the firms could be captured. However, it is apparent that substantial differences existed between the two samples, and even within sample 1, the variation in tenure was quite large. In order to rule out the possibility that these differences affected subsequent results, we controlled for industry, tenure, firm size and the number of respondents from each firm in regression equations. These control variables are described below.

Measures

Organization recruitment and socialization practices. Respondents completed a 16-item scale developed by Pascale (1985). This scale is designed to measure the degree to which companies engage in actions or have policies

similar to those of companies that have a reputation for successfully recruiting and socializing newcomers. Respondents indicated on a five-point scale the extent to which each item was true of their company.

The 16 items were initially analysed using a principal components analysis with a varimax rotation. After an inspection of the item statistics and rotated solution, five items which loaded on more than two factors or which had very low variance were dropped from further analysis. The 11 remaining items were reanalysed, again using a principal components analysis with a varimax rotation, and the results are shown in Table 1.

Three clear factors emerged. The first factor, defined by four items, is based on the existence of a common set of organizational values. We labelled this factor 'values' and it corresponds with the notion of a strong, clear, visible organizational value system manifested through role models and management actions (suggested in the second hypothesis). We labelled the second factor, 'rewards' and it is defined by three items with loadings greater than .55. The 'rewards' factor reflects the existence of clear rewards and career paths available to all new entrants. This factor is used to test the third hypothesis which postulates that formal reward and control systems should be positively related to higher levels of instrumental or compliance-based commitment. The third factor is defined by four items, all reflecting the existence of a rigorous recruitment and selection process as proposed in the first hypothesis. We labelled this factor 'selection'.

To ensure independence among the three organizational practice dimensions at the individual level of analysis, factor scores were computed and used in subsequent analyses. It should be pointed out, however, that although the factors are completely independent at the individual level used in the factor analysis, subsequent aggregation of individual scores to characterize the organizational level may induce some small correlation among the dimensions. This is not unreasonable given that organizations with strong value systems may also have recruitment and reward systems designed to maintain these.

The use of multiple individual estimates of socialization practices to form an overall score is also argued to be a reasonable procedure since not all entrants to a given organization will be exposed to precisely the same set of experiences. Thus, the use of multiple perceptual assessments may be as accurate an estimate of the true score as a more objective index, such as the number of interviews the personnel department recommends, but which may not be uniformly applied in all instances.

Two indicators support the view that the composite firm practice scores reliably represented and distinguished firm practices. First, we found that firm raters had relatively consistent perceptions of firm practices as indicated by the mean inter-item correlations for each factor (values = .72; rewards = .46; selection = .50). And second, if recruitment and socialization practices are distinct characteristics of organizations, small within-firm variances and large between-firm variances should result. In order to test the extent to which recruitment and socialization practices were distinct from one firm to the next, an analysis of variance (ANOVA) was conducted using firms as the independent variable and the three organization practice factors (values, rewards, selection) as dependent variables. This analysis was done separately for each of the two industries (high technology and accounting).^{*} Findings indicated that between-firm variance (within each industry) was significantly greater than within-firm variance for all three of the firm practice variables (values_{hitech}: $F = 21.04, p < .01, R^2 = .84$; rewards_{hitech}: $F = 29.94, p < .01, R^2 = .88$; selection_{hitech}: $F = 31.99, p < .01, R^2 = .89$; values_{acctg}: $F = 57.58, p < .01, R^2 = 0.78$; rewards_{acctg}: $F = 333.58, p < .01, R^2 = .95$; selection_{acctg}: $F = 447.03, p < .01, R^2 = .97$).

Commitment. Commitment was measured using O'Reilly & Chatman's (1986) scale. A principal components analysis with varimax rotation of the 12 items yielded two unambiguous factors in contrast to the three identified by O'Reilly & Chatman. Table 2 shows the results of this analysis.

The first factor contains eight items with loadings of greater than .60. These items include those originally labelled by O'Reilly & Chatman (1986) as representing internalization and identification. Since these items represent commitment to the organization based on shared values, we labelled this factor 'normative commitment'. The second factor, defined by four items with loadings greater than .50, is quite similar to what O'Reilly & Chatman describe as compliance. This factor was labelled 'instrumental commitment' since it

* It should be noted that in order to be consistent with our treatment of the two industries in other analyses (e.g. controlling for industry in our regression analyses) we report the between-firm differences for each of the two industries separately. In fact we found identical results (substantially greater between-firm variance than within-firm variance) when we ran ANOVAs on the entire data set. We also found that when using industry as the independent variable the rewards and selection factors differed significantly across the industries, but the values factor did not differ significantly across the two industries.

Table 1. Varimax factor loadings for recruitment/socialization dimensions ($N = 323$)

Item	Varimax factor loadings		
	Values	Rewards	Selection
1. Recruiters receive at least one week of intensive training.	-.13	.46	.57
2. Recruitment forms identify several key traits deemed crucial to the firm's success, traits are defined in concrete terms and interviewer records specific evidence of each trait.	.12	.31	.66
3. Recruits are subjected to at least four in-depth interviews.	.22	-.14	.69
4. Company actively facilitates deselection during the recruiting process by revealing minuses as well as pluses.	.23	.31	.64
5. All professional employees in a particular discipline begin in entry level positions regardless of prior experience or advanced degrees.	.00	.73	.05
6. Reward systems and promotion criteria require mastery of a core discipline as a precondition of advancement.	.18	.56	.23
7. The career path for professional employees is relatively consistent over the first six to ten years with the company.	.24	.74	-.02
8. Virtually all professional employees can identify and articulate the firm's shared values (i.e. the purpose or mission that ties the firm to society, the customer or its employees).	.70	.26	.15
9. There are very few instances when actions of management appear to violate the firm's espoused values.	.69	.12	.06
10. Employees frequently make personal sacrifices for the firm out of commitment to the firm's shared values.	.70	-.18	.18
11. When confronted with trade-offs between systems measuring short-term results and doing what's best for the company in the long term, the firm usually decides in favour of the long-term.	.62	.24	.15
Percentage of variance explained	29	13	10

Table 2. Varimax factor loadings for commitment dimensions ($N = 323$)

Item	Varimax factor loadings	
	Normative commitment	Instrumental commitment
1. What this organization stands for is important to me.	.72	-.23
2. I talk up this organization to my friends as a great organization to work for.	.81	-.13
3. If the values of this organization were different, I would not be as attached to this organization.	.63	.02
4. How hard I work for the organization is directly linked to how much I am rewarded.	.37	.57
5. In order for me to get rewarded around here, it is necessary to express the right attitude.	.06	.68
6. Since joining this organization, my personal values and those of the organization have become more similar.	.72	.19
7. My private views about this organization are different from those I express publicly.	-.44	.50
8. The reason I prefer this organization to others is because of what it stands for, that is, its values.	.82	.05
9. My attachment to this organization is primarily based on the similarity of my values and those represented by the organization.	.83	.01
10. Unless I'm rewarded for it in some way, I see no reason to expend extra effort on behalf of this organization.	-.32	.66
11. I am proud to tell others that I am part of this organization.	.80	-.10
12. I feel a sense of 'ownership' for this organization rather than being just an employee.	.68	-.28
Percentage of variance explained	42	13

describes commitment based on involvement exchanged for specific rewards. Using the results described in Table 2, two factor scores were computed for each respondent.

Control variables

In order to examine the hypothesized associations between organizational recruitment and socialization practices and commitment, numerous potentially confounding variables need to be ruled out. Therefore, four control variables were used in the analysis. First, since tenure in the organization has been shown to be related to commitment (Hall, Schneider & Nygren, 1970; Sheldon, 1971), each respondent reported the length of time he or she had worked in the firm. Second, since recruitment and socialization practices may vary between large and small firms (e.g. budget allotted) and since an individual's commitment may be somewhat dependent on the size of the firm (Steers, 1977), respondents reported the number of employees in their organization (median = 1500). Similarly, since recruitment and socialization practices may vary across industries, a dummy variable was used to index the difference between high technology and accounting firms (0 = high tech, 1 = accounting). Finally, since perceptual measures of recruitment and socialization were used, and since the number of respondents per firm varied from 3 to 23, the actual number of respondents for each firm was entered as a control variable to capture variations attributable to sample size ($M = 6.71$, $SD = 5.22$).

Calculation of recruitment and socialization scores

Since multiple respondents described the socialization practices for each firm, the responses had to be aggregated before relating the organization variables to individual commitment. The most straightforward method for calculating the scores of a firm would be to average the responses of individual members on the three recruitment and socialization factors. However, this would introduce some response-response bias into the analysis. To eliminate such bias, scores for the organizational dimensions were calculated for each individual based on the aggregate of the others in the firm, but eliminating the focal individual's own score. This was done using the following formula:

$$\bar{x}_i = 1/N - 1 \left| \sum_{\substack{j=1 \\ j \neq i}}^N x_j \right. \quad (1)$$

where \bar{x}_i represents the organization score assigned to the individual, x_j represents the set of scores of all respondents within the organization, and N represents the number of respondents from the organization. Separate scores were calculated for each of the three organizational factors.

Results

Several patterns among the bivariate correlations, presented in Table 3, are worth noting. First, the only control variable related to commitment is industry. Accountants tend to be more likely to report being instrumentally committed ($r = .22$, $p < .01$). This may be due to the fact that one major requirement for becoming a certified public accountant is that a specific number of hours of public auditing be completed (Emerson, 1987). Thus, many of the accountants in this sample may have joined the firm in order to fulfil this requirement rather than to spend their careers in that particular firm. Longer tenure respondents are more likely to be in larger firms ($r = .31$, $p < .01$) and high technology firms ($r = .39$, $p < .01$). This reflects the nature of the participants drawn from accounting firms, all of whom were comparatively new staff auditors. This can be seen most clearly with the dummy variable which shows strong associations with both the number of respondents ($r = .64$, $p < .01$) and an emphasis on clearly structured reward and career systems ($r = .74$, $p < .01$). The former finding reflects the larger number of respondents per firm obtained with the accounting firm sample, while the latter reflects the more formal promotion ladders in accounting firms (e.g. Stevens, 1981). A final

Table 3. Correlations among variables ($N = 291$)

Variables	1	2	3	4	5	6	7	8	9
<i>Control variables</i>									
1. Tenure	—								
2. Firm size	.31**	—							
3. Industry (0 = Hi-tech, 1 = Acctg.)	-.39**	-.26**	—						
4. Respondents per firm	-.12*	-.14*	.64**	—					
<i>Socialization</i>									
5. Values	-.06	-.05	-.03	.14*	—				
6. Rewards	-.20**	.07	.74**	.44**	-.03	—			
7. Selection	-.07	.18**	.29**	.30**	.17**	.24**	—		
<i>Commitment</i>									
8. Normative	.01	.01	.03	-.01	.21**	-.06	.15**	—	
9. Instrumental	-.09	.02	.22**	.10	-.11	.14*	.01	.00	—

* $p < 0.05$; ** $p < 0.01$.

pattern of interest is the significant positive correlations between the number of respondents per firm and the organizational variables. Several explanations are possible but the most relevant one is that the number of respondents per firm is a potential confounding variable and should be controlled for when testing the hypotheses.

There are also relationships among the organizational practice variables. The presence of a set of consistent, well-explicated selection policies is positively related to an articulated set of shared values ($r = 0.17$, $p < 0.01$) and to a well-defined set of rewards and career paths ($r = 0.24$, $p < 0.01$). Although these factors are orthogonal at the individual level of analysis, aggregation to the organizational level reveals these associations; that is, while no correlations are present in terms of individual responses, a small relationship exists at the firm level.

The general question motivating this study focuses on the relationship between intensive recruitment and socialization practices and the nature of the individual's commitment to the organization. While Table 3 offers some general support for these propositions, more specific tests that examine these associations independently from other potential confounding factors such as individual tenure, industry and organizational size are needed. To test our three hypotheses we report two sets of regressions, one for each type of commitment, both without control variables (equations 1 and 3) and with control variables (equations 2 and 4) in Table 4.

The results in Table 4 are supportive of the general association, predicted in hypotheses 1 and 2, between firm practices and normative commitment. Equations 1 and 2 show that recruitment procedures (hypothesis 1) and socialization practices (hypothesis 2) which are more intensive, and specifically those which emphasize strong organizational value systems, are positively related to higher levels of commitment based on internalization and identification. When the control variables are included in the equation, the presence of a uniform formal reward system is negatively related to normative commitment,

Table 4. Regression results: The effects of firm socialization practices on individual commitment

Independent variables	Normative commitment (no controls)	Normative commitment (controls)	Instrumental commitment (no controls)	Instrumental commitment (controls)
	1	2	3	4
1. Values	.18**	.20**	-.10	-.09
2. Rewards	-.09	-.21*	.14*	-.11
3. Selection	.15*	.14*	.00	-.07
4. Individual tenure	—	.08	—	-.02
5. Size of firm	—	.04	—	.16*
6. Industry (0 = Hi-tech; 1 = Acctg.)	—	.23*	—	.38**
7. Respondents per firm	—	-.13	—	-.03
Adjusted R^2	.06	.06	.03	.05
d.f.	3, 287	7, 276	3, 287	7, 276
F ratio	6.56**	3.60**	3.06*	3.13**

* $p < .05$; ** $p < .01$.

Note. Entries represent standardized regression coefficients.

providing partial support for hypothesis 3. In addition, the dummy variable for industry shows that respondents from accounting firms have higher levels of normative commitment, perhaps reflecting the fact that new accountants were more likely to have recently participated in orientation and training programmes.

The findings with respect to instrumental or compliance-based commitment are also interesting. Hypothesis 3 is tested more fully in equations 3 and 4. The equation without control variables (3) shows that formal reward systems are related to instrumental commitment in the positive direction which was predicted in hypothesis 3. When the control variables are entered this association becomes non-significant, but instrumental commitment is then positively predicted by the size of the firm and the industry dummy. Respondents from larger firms and accounting firms report higher levels of instrumental commitment. Given the increased formalization typically found in larger organizations (e.g. Pugh, Hickson, Hinnings & Turner, 1968) and the rule-based nature of the public accounting profession (e.g. Stevens, 1981) these results are reasonable. It is also interesting to note that neither the length of the individual's tenure with the organization nor the number of respondents sampled from the firm is ever significant, suggesting that these variables do not affect the findings.

It should be noted that while the technique of removing the focal individual from the analysis solves the problem of common-method bias, it may simultaneously reduce the magnitude of the predicted associations, and it thus constitutes a conservative test of the hypotheses. To illustrate this point, consider the example of a respondent who describes organizational values as strong and who also scores high on normative commitment as we

predict in hypothesis 2. Since this person's score on the independent variable (e.g. organizational values) is excluded when we calculate the index of organizational values for that firm, the resulting composite score on the independent variable will be lowered. If we assume that the same effect occurs in the opposite direction for respondents who score low on normative commitment, the resulting correlation between the firm estimate and the focal individual's normative commitment score will be smaller than if the focal individual's score had been included in the firm's composite socialization score. Therefore, our results may *underestimate* the magnitude of the relationship between socialization practices and individual commitment. Clearly, the extent to which our results systematically underestimate this relationship depends, at least in part, on the consistency with which the firm characteristics are rated. Thus, the higher the internal consistency among raters (excluding any one rater), the less likely it is that removing the focal individual from the calculation will alter the ratings of the firm characteristics. In this study, as we reported in the Method section, the raters were highly consistent about firm values, and moderately consistent about rewards and selection practices.

In addition, while the amount of variance accounted for appears to be relatively small, interpretations of the results should reflect the techniques used in this study. Specifically, since each focal individual's ratings are removed from the calculation of organizational recruitment and socialization practices, the relationships demonstrated in the regression equations represent a conservative estimate—one which is unaffected by common-method bias—of how organization level phenomena affect individuals' attitudes and behaviours. In fact, studies which do not take steps to remove common-method variance may generate results which *overestimate* the amount of variance accounted for by the relationship between firm practices and individual commitment (cf. Abrahamson, 1983).

This point can be demonstrated empirically by comparing our findings with common-method bias removed (Table 4), with the results which would have emerged if we had not removed common-method bias. We calculated equations 1–4 (from Table 4) using the identical set of variables; however, the three organization characteristics variables did not have the focal individual's ratings removed. Results of this 'biased' analysis revealed that while the pattern of significance among the standardized coefficients was virtually identical to the 'unbiased' models in Table 4, the overall equations in the 'biased' models accounted for substantially more variance in normative-based commitment (equation 1: $F = 55.29$, $p < .01$, $R^2 = .34$; equation 2: $F = 24.66$, $p < .01$, $R^2 = .37$) and slightly more variance in instrumental-based commitment (equation 3: $F = 9.633$, $p < .01$, $R^2 = .08$; equation 4: $F = 4.58$, $p < .01$, $R^2 = .08$). In sum, one outcome of this research has been to demonstrate the importance of removing common-method bias in studies which rely on self-report data in order to arrive at a truer estimate of relationships between independent and dependent variables.

Discussion

Overall, the findings of this study provide support for the hypotheses proposed. The results show a significant positive relationship between strong organizational recruitment and socialization practices, and individual commitment. When firms have well-developed recruitment and orientation procedures and well-defined organizational value systems, respondents manifest higher levels of normative commitment to the organization. This

finding is consistent with much earlier theorizing, but it has seldom been empirically demonstrated (e.g. Jones, 1986; Pascale, 1985; Van Maanen & Schein, 1979). Further, these findings exist after controlling for possible response–response bias, and for a set of potential alternative explanatory variables such as individual tenure, industry, the number of firm members rating organizational recruitment and socialization practices, and organizational size. In addition to these effects, well-articulated reward systems are positively related to instrumental based commitment, also suggested in earlier theoretical work (e.g. Becker, 1960; Etzioni, 1975; Gould, 1979).

These findings are useful increments to our understanding of the relationship between organizational practices and individual commitment in several ways. First, as suggested by previous research, the concept of organizational commitment may reflect multiple underlying factors. O'Reilly & Chatman (1986) argue that commitment can develop from three separate sources of attachment. Using a larger and a more representative sample than their original research, our results showed that two of the three factors identified by O'Reilly & Chatman (1986) collapsed to form a single dimension. Despite this difference, the implications of this study are similar to theirs. Findings from both studies support the notion that commitment is a multifaceted construct, and that without clarity in the specific aspects of commitment being studied results may be somewhat ambiguous.

In addition, the findings in Table 4 suggest that, at a general level, both extrinsic and intrinsic factors can operate to influence commitment in a way that is consistent with a sufficiency of justification hypothesis (Caldwell, O'Reilly & Morris, 1983). For example, the positive effects of selection and strong organizational value systems on normative commitment may stem from processes of incremental commitment and strong social constructions. These early organizational experiences may lead to a lack of extrinsic justification for behaviour, and thus may be manifested in attachments based on identification and internalization (e.g. O'Reilly & Caldwell, 1981; Salancik & Pfeffer, 1978). At the same time, a clear formal reward system may *undermine* normative commitment, as suggested by the negative coefficient for the reward factor in Table 4, while simultaneously promoting instrumental based commitment. The potential contradictory effects are reminiscent of earlier research which alludes to the tension between cosmopolitan and local orientations of professionals in bureaucratic organizations (e.g. Flango & Brumbaugh, 1974; Gouldner, 1957).

The present study is also useful in highlighting areas in which additional investigations are needed. First, since organizational practices such as reward systems and recruitment procedures vary across firms, there is a need for multi-organizational samples. Although this study used a sample of 45 firms and an analytic approach to help control for response–response bias, clearly, a more focused and objective examination of specific practices is needed. For instance, studies which measure more objective aspects of recruitment and orientation practices, such as the number of hours an individual spends in selection procedures and indoctrination programmes, and the types of activities, could be important (e.g. Chatman, 1989; Feldman, 1976; Louis, 1980).

The significance of the results of this study may seem rather small in terms of explanatory power. However, in addition to the specific statistical explanation provided in the Results section, a number of compelling conceptual explanations can be offered as well. First, our measurement of recruitment and socialization practices is somewhat impressionistic—that is, such practices are less proximal and more reliant on member

perceptions than on 'objective' accounts of recruitment and socialization. Perceptual assessments may in fact be more accurate since it may be easier for people to report global impressions rather than specific experiences (e.g. Louis, 1980; Van Maanen & Schein, 1979). Second, while there have been other explanations offered for individual commitment (e.g. Steers, 1977), no other studies have used class level variables which are based on group perceptions. In this sense, it is somewhat remarkable that any variance at the individual level was explained. The literature on strong culture organizations may also offer important insights. Researchers and practitioners have argued that strong culture organizations, which are usually defined as having strong recruitment and socialization practices (e.g. Davis, 1984; Deal & Kennedy, 1982), are also more likely to have a highly committed workforce (e.g. Peters & Waterman, 1982). If the strength of an organization's culture exists on a continuum (e.g. Jackson, 1966; O'Reilly, 1983), the present sample of firms would clearly fall in the middle of this continuum. In a sense, then, this study offers a conservative test of the hypotheses. If we had examined strong culture firms, where recruitment and socialization practices were heavily emphasized, the amount of variance in individual attitudes and behaviours explained by such organization level practices would be higher. Thus, a second focus for future research is on studies which examine the impact of strong culture firms on individual attitudes and behaviours.

A related criticism of this study might also be that the questions on each of the two surveys used here can be seen as similar in content (e.g. their focus on values) and form. However, our design allowed us to separate ratings of the firm from individual commitment responses. In essence, the two instruments were designed to capture two different levels of analysis: organization level practices, and individual level commitment. Given the difficulties of comparing individual level constructs to organization level practices (Rousseau, 1985), a contribution of the approach taken here is that it offers a way of crossing levels of analysis. Future studies which rely on self-report data for both independent and dependent variables should be sure to assess the extent to which the consistency within firms is high (as would be the case in strong culture firms). When there is high consistency among firm raters about important organizational characteristics, removing common-method bias, as described here, will generate more accurate results than would be generated if such bias were not taken into account.

Finally, while organizational commitment is one important outcome of recruitment and socialization experiences, there are other important outcomes such as motivation, withdrawal and performance, which should be examined. Such outcome-focused research offers another approach to clarifying the nature of organizational commitment.

Overall, much that is written suggests that the commitment of individuals will be related to their organizational experiences. The results of this study indicate that this proposition is true and further suggest that these experiences may differentially affect the form that such individual attachment to the organization takes.

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