

A Construct Validity Study of Commitment and Perceived Support Variables

A MULTIFOCI APPROACH ACROSS DIFFERENT TEAM ENVIRONMENTS

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Social exchange theory suggests that employees feel commitment toward both their employing organizations and their work teams, while also experiencing varying levels of support from these same entities. Unfortunately, previous work has neither fully explored this possibility nor tested the capacity of currently available instruments to adequately measure the distinctiveness of the associated constructs. To address this need, we collected data from 902 employees in four diverse organizations. As predicted, respondents distinguished among organizational commitment, team commitment, organizational support, and team support. Furthermore, as predicted, perceived support from an entity predicted commitment to that same entity.

Keywords: organizational commitment; perceived organizational support; team commitment; perceived team support

Research on employee commitment has produced two distinct and growing literature streams. The most recent of these takes the perspective that employees have perceptions regarding commitment they believe their employing organizations have for them, referred to as perceived organizational support (POS) (Eisenberger, Huntington, Hutchison, & Sowa, 1986).

Even though POS and organizational commitment are conceptually independent, researchers were concerned as to whether they were empirically distinguishable. Fortunately, subsequent work supported the notion that the commitment individuals have toward organization is distinct from the support they perceive their organization offers to them (Eisenberger, Fasolo, & Davis-LaMastro, 1990; Shore & Tetrick, 1991). In other words, when it comes to the organization, employees can distinguish the direction of the commitment and available instruments are able to detect this discernment. The second perspective, conceptualized by Reichers (1985) and empirically supported by Becker (1992), views employee commitment as a multiple foci phenomenon. Reichers and Becker argue that there are a number of foci, or entities, upon which employees may bestow their commitment (e.g. company, department, union, or team). Additionally, different levels of commitment held for the various foci are independent within individuals (Becker & Billings, 1993).

In recent years, work teams have emerged as a focus of special interest. The complexity and competitiveness of the global business community has necessitated numerous workplace innovations, including the extensive implementation of teams (Sheridan, 1997). The importance of teams has been recognized by numerous authors (e.g., Cohen & Bailey, 1997; Sundstrom, De Meuse, & Futrell, 1990).

In modern team-based organizations, the salient features of the aforementioned literatures converge in that employees are members of at least two entities, or foci (i.e., the organization and the team), on which they could bestow their commitment and from which they could perceive support. At this confluence several questions arise. First, can employees simultaneously distinguish between both the commitment associated with more than one entity (organization and team) and the direction of the associated commitment (commitment to and support perceived to be given from each entity)? Second, can the instruments currently available to researchers detect and measure this ability? Third, can these instruments do so across a variety of organizations and team structures? For research to progress it is necessary to answer these questions. Unfortunately, the answers are not clear, particularly in light of the numerous varieties of team structures, team objectives, and ways in which team members relate to each other and the rest of the organization. Correspondingly, the purposes of this study are to test the ability of existing instruments to simultaneously detect the distinctiveness of both the direction of the commitment (to or from the employee) and the entity with which the commitment is associated (the organization or the team) and, by doing so, to confirm employees' ability to make these distinctions.

THEORETICAL ISSUES AND HYPOTHESES

Generally speaking, the commitment and support literatures have both been grounded in social exchange theory (for a review, see Cropanzano, Rupp, Mohler, & Schminke, 2001). Social exchange theory has been considered a cornerstone for research on commitment (e.g., Masterson, Lewis, Goldman, & Taylor, 2000) and support (e.g., Shore & Shore, 1995). However, for individuals to engage in social exchanges, they need to be able to ascertain who is supporting them (e.g., discern organizational support from team support) and to separate their commitment to a social entity from a social entity's support for them. Social exchange theory and the norm of reciprocity propose that when one person or entity does a favor for another, the recipient of the favor is obliged to reciprocate (Blau, 1964). The norm of reciprocity has a "division of labor" component that states that reciprocation will be made in terms of goods and services that are of value to the object of the reciprocation and is within the capability of the donor to give (Gouldner, 1960). More specifically, when individuals perceive that organizations or teams care about their well-being, then they are inclined to reciprocate by putting forth greater effort on its behalf. Furthermore, those who perceive such supporting consideration are likely to infer that such behaviors and attitudes represent underlying values of the entity and internalize them.

Field theory (Lewin, 1943) has been used to help explain individuals' reactions to entities that exist in their environment. It asserts that individuals' reactions to an environment are determined, to a great extent, by the proximity and the salience of the elements that are perceived (Mathieu & Hamel, 1989). With respect to the two foci at issue here, the team should be perceived as more proximal than the organization. For instance, work tasks are performed within the purview of the team, feedback is available immediately from the team, and team communications and interactions are primarily done on a face-to-face basis. The proximal difference between the team and the organization should aid individuals to distinguish the source of perceived support. Social exchange theory (Blau, 1964) and the norm of reciprocity (Gouldner, 1960) suggest that when a person or entity does a favor for another, the recipient is obliged to reciprocate, although the details of when and in what form are unspecified. The application of these concepts has two implications. First, workers need to decide where they should invest their efforts. Individuals do not wish to mistakenly "repay" an unsupportive social entity, nor do they wish to neglect an entity that cares about them. If people are unable to distinguish the organization from a team, then they are unable to strategically focus reciprocating behaviors and attitudes. This implies that

individuals have an incentive to distinguish among entities with respect to the exchange process. Second, individuals must take action to put forth the reciprocating effort and actively make inferences about values and their internalization. Receiving support, on the other hand, is more passive. This implies that people should be able to distinguish between the directions of commitment. In other words, they should be able to separate the commitment that they perceive an entity has for them from the commitment that they have for the entity.

Consistent with this theory, in team-based environments it seems likely that workplace commitments vary along two dimensions: foci (organization or team) and direction (from or to the employee). Crossing these two dimensions suggests as many as four constructs: organizational commitment, commitment individuals have for the organization; team commitment, commitment individuals have for the work team; perceived organizational support, commitment individuals perceive the organization has for them; and team support, commitment individuals perceive the team has for them.

Although there are theoretical reasons to suspect that workers can distinguish among these four constructs, research to date has proceeded in a somewhat piecemeal fashion. In general, research involving more than one of these constructs addresses issues that calls for them to be examined two at a time, usually organizational commitment and POS (e.g. Eisenberger et al., 1990; Rhodes, Eisenberger, & Armeli, 2001; Wayne, Shore, & Liden, 1997). Indeed, Shore and Tetrick (1991) expressed concern about “the conceptual similarity between organizational commitment and perceived organizational support” and concluded that for organizational research to advance with regard to the study of these important constructs “it is critical to investigate the distinctiveness [of their] measures” (p. 638). Their findings confirmed that “perceived organizational support as measured by the SPOS [survey of perceived organizational support (Eisenberger et al., 1986)] is empirically distinct from affective commitment as measured by the OCQ [Organizational Commitment Questionnaire (Mowday, Porter, & Steers, 1982)]” (p. 640). Although one study did include all four constructs (Bishop, Scott, & Burroughs, 2000), with respect to discriminant validity the authors reported only the results of an exploratory factor analysis (EFA). Whereas the technique was sufficient for that study, the discriminant validity of the constructs has not been tested across multiple samples with differing organizational and team characteristics. Hence, the generalizability of the distinctiveness of these constructs and the ability of current instruments to measure the distinctiveness of all four constructs together remains in question.

Invoking the same concerns expressed by Shore and Tetrick (1991) to team-based work environments, it is critical to investigate the empirical

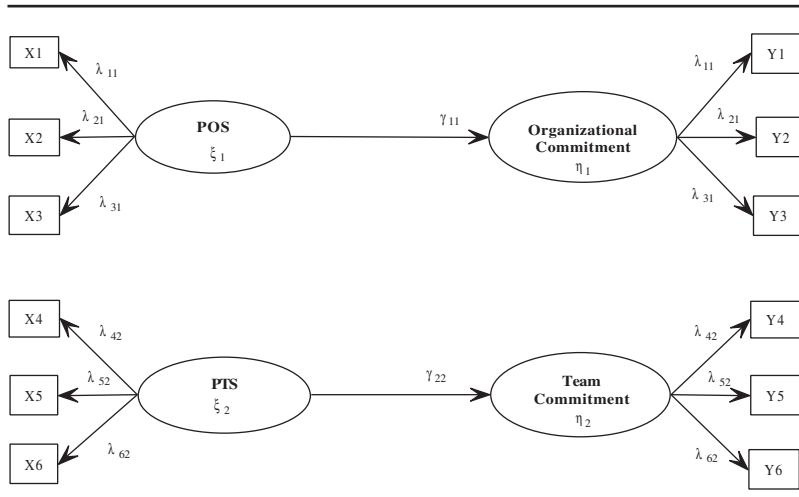


Figure 1: Structural Model of the Relationships Among the Support and Commitment Constructs

NOTE: X and Y represent the manifest indicators for the exogenous and endogenous latent constructs, respectively.

distinctiveness between team commitment and perceived team support (PTS). However, in team-based environments the commitment/support issue is more complex. For researchers to test theories related to employee commitment involving both the organization and the team, they must consider that there are two sources of support rather than one, two foci of commitment rather than one, and as many as four potential exchange paths rather than two. See Figure 1. In the pages that follow, we discuss the theoretical reasons, along with supportive empirical evidence, that lead us to predict a four-factor model.

ORGANIZATIONAL COMMITMENT

Since its inception, organizational commitment has been defined as the psychological identification that an individual feels toward his or her employing organization (Mowday et al., 1982). More specifically, organizational commitment is characterized by (a) a strong belief in, and acceptance of, the organization’s goals and values; (b) a willingness to exert considerable effort on behalf of the organization; and (c) a strong desire to maintain membership in the organization. Notice that this definition contains a clear direction (from the employee to the employer) and an explicit focus or target

(the organization). Organizational commitment has inspired a tremendous amount of research (see Meyer & Allen, 1997, for a review). Meta-analytic evidence suggests that this construct predicts work outcomes as job attitudes, turnover intentions, and organizational citizenship behaviors (Mathieu & Zajac, 1990; Stanley, Meyer, Topolnytsky, & Herscovitch, 1999). Given this interest, it is especially important to distinguish organizational commitment from other related constructs, including team commitment, POS, and PTS.

TEAM COMMITMENT

Cogent and meaningful research on employee commitments is complicated by the idea that people can experience commitment to a number of entities in the workplace in addition to the organization (Becker, 1992; Reichers, 1985). Our interest stems from the recognition that in a sense, organizations are groups of groups. That is, they are composed of smaller groups or work teams. The feelings that one has toward one's coworkers may or may not parallel one's feelings toward one's employer. For this reason, it is important to separate the commitment that one has for the organization from the commitment that one has for his or her teammates. In this regard, research to date is promising. It seems that individuals can separate organizational commitment from their commitment to work groups (Becker, 1992) and work teams (Bishop & Scott, 2000).

POS

Not only do employees experience commitment toward social entities, there is good evidence to suggest that individuals also have perceptions of the commitment that social entities have for them. When the social entity in question is the organization as a whole, the construct has been termed "perceived organizational support" (POS). Its identifying components are (a) the extent to which employees believe that the organization values their contribution and (b) cares about their well-being and is based on a social exchange interpretation of organizational commitment (Eisenberger et al., 1986). Perhaps as a result of the restructuring and downsizing activities that have been prevalent over the past two decades (e.g., Traub, 1990), organizational support has received a good deal of attention (Shore & Shore, 1995). Organizational support has been related to a variety of work-relevant outcomes, such as job performance (Armeli, Eisenberger, Fasolo, & Lynch, 1998; Eisenberger, Cummings, Armeli, & Lynch, 1997; Lynch, Eisenberger, & Armeli, 1999) and organizational citizenship behaviors (Randall, Cropanzano, Bormann, & Birjulin, 1999; Wayne et al., 1997).

As mentioned above, individuals seem able to separate commitment they have for their employers (organizational commitment) from the commitment they believe their employers have for them (POS). There is also evidence that POS can be distinguished from team commitment (Bishop et al., 2000; Howes, Cropanzano, Grandey, & Mohler, 2001).

PTS

Just as individuals bestow commitment on different entities, we believe that they may perceive support emanating from multiple sources. However, unlike commitment, POS has not been extensively examined with multiple entities in mind. With the exception of POS and perceived supervisory support (PSS), support employees experience from their supervisors (Kottke & Sharafinski, 1988), we are unaware of any published research validating constructs related to other entities from which employees might perceive support. Similarly, there are few published studies that refer to individuals' perception of support from both the organization and a team (for exceptions, see Bishop et al., 2000; Howes et al., 2001).

The first step in validating PTS as a construct distinct from POS and team commitment is to examine its definition. Because we are basing our concept of PTS on Eisenberger and colleagues' (1986) definition of POS, it would seem that altering their definition by substituting *team* for *organization* and *members* for *employees* would make sense in a team environment. To wit: "Perceived team support is the extent to which members believe that the team values their contribution and cares about their well-being." We believe this definition makes sense, as do the items used to measure it, where the word *team* is substituted for the word *organization*. With PTS defined, we can examine its similarities and differences with respect to the related constructs in this study and attempt to ascertain the distinctiveness of its measure.

HYPOTHESES

Based on the above discussion, we conclude that individuals have both the incentive and the means to distinguish both the direction of the commitment and the entity with which the commitment is associated. We also conclude that carefully worded instruments are able to detect their ability to do so. Therefore, we propose the following:

Hypothesis 1: Employees are able to simultaneously distinguish among organizational commitment, team commitment, POS, and PTS. That is, we predict that the manifest indicators of the variables will load on their respective factors.

Our first hypothesis proposes that respondents can distinguish among direction and foci. However, there is more to the matter than this. Several authors have suggested that workers reciprocate organizational support with higher levels of commitment (e.g., Eisenberger et al., 1990; Rhodes et al., 2001; Randall et al., 1999; Shore & Tetrick, 1991; Wayne et al., 1997). In particular, Rhodes and colleagues (2001) claimed support that POS is causally antecedent to organizational commitment, at least in some circumstances. Eisenberger, Armeli, Rexwinkel, Lynch, and Rhoades (2001) propose, and empirically support, that POS should engender a felt obligation to care about the organization's welfare. The concept of exchanging caring for caring (Foa & Foa, 1980) constitute the basis of exchange and the reciprocated "goods" are POS and organizational commitment. The POS-organizational commitment relationship is further supported by a meta-analysis by Rhodes and Eisenberger (2002) in which organizational commitment is identified as a consequence of POS and the effect size was found to be strong and positive (for a review of the literature linking POS and organizational commitment, see Rhodes & Eisenberger, 2002). Furthermore, we have already argued that employees distinguish organizational support from team support. Consequently, workers should reciprocate team support with team commitment, much as they reciprocate organizational support with organizational commitment. Hence,

Hypothesis 2: Accounting for the simultaneous influence of all four variables, the levels of POS and PTS will be related to organizational and team commitment, respectively.

METHOD

PARTICIPANTS AND SURVEY PROCEDURE

Because teams take on a variety of characteristics across organizations, we wanted to test our hypotheses in environments where teams had differing characteristics, were implemented differently, and had different amounts of emphases placed on them. Accordingly, we surveyed employees from four organizations. A summary of the more salient differences on team-related issues appears in Table 1. Data collections at all sites were part of larger organizational surveys with several purposes. Participants completed surveys that contained measures of organizational and team commitment, POS, and PTS. In the cases of the first three samples, surveys were administered on company premises and on company time. Participation was voluntary but no one refused to take part. Research team members were present to give

TABLE 1
Differences in Teams at the Research Sites

<i>Attribute</i>	<i>Sample 1</i>	<i>Sample 2</i>	<i>Sample 3</i>	<i>Sample 4</i>
Organizational-Level Issues				
1. Permanent or temporary teams	Permanent	Permanent	Permanent	Temporary
2. Members full- or part-time in team	Full-time	Full-time	Full-time	Part-time
3. Primary job responsibility within this team	Yes	Yes	Yes	No
4. Team-related training	Extensive	Some	Extensive	Some
5. Teams involved in member election?	Yes	Yes	No	No
6. Competition between teams	Yes	No	No	No
7. Type of accountability and evaluation	Entirely at team level	Both team and individual levels	Both team and individual levels	Individual level
8. Team or individual compensation	Team based	Individual	Individual	Individual
9. Basis for amount of compensation	Piece rate at team level	Hourly	Hourly Living needs	Hourly Salary
Task-Level Issues				
1. Homogeneity/heterogeneity of tasks	Homogeneous	Homogeneous	Heterogeneous	n/a
2. Level of task interdependence	High	High	Low	n/a
3. Cross-training provided	Yes	Yes	No	n/a
4. Productivity based more on individual skills or machine technology?	Individual	Machine	Individual	n/a
5. Degree to which team members can change tasks (do other team member's jobs) "on the fly."	Anytime	At scheduled changes	Anytime but based on member skill	n/a
Team Interaction				
1. Interteam assistance by members	No	No	Yes	n/a

instructions, answer questions, and ensure respondents completed surveys independently. In the case of Sample 4, all team members were approached by the same research assistant who was doing an internship at the organization. Employees were asked for their cooperation and the majority agreed.

Those who participated received verbal instructions in a standardized format.

Sample 1. A total of 485 production employees from an apparel-manufacturing plant located in the southeastern United States took part in the survey. This represented all employees assigned to sewing teams who were present during 1 of the 2 days surveys were administered. Respondents completed surveys on company time in groups of 20 to 30. They averaged 37 years of age, were mostly female (98.1%) and White (92.7%), and 73% had been with the company for over 5 years. About 63% had completed high school, 18.6% had attended college, and 2.1% had college degrees. Fifteen incomplete surveys were dropped.

The plant had 50 sewing teams with a small support staff of team facilitators (one for every 10 teams), managers, maintenance personnel, and material handlers. The company placed great emphasis on teams and teamwork. Teams were allowed to manage their own work processes, control the work pace, distribute tasks, schedule breaks, and participate in the selection and, to a lesser degree, train new members. The company encouraged (but did not require) members to engage in team-supporting behavior, such as switching jobs to alleviate bottlenecks, gathering raw materials and supplies if they got ahead on their own jobs, and offering suggestions and rendering assistance to other members. Cross-training was provided so team members would have the skills to perform more than one operation. Training in quality control and group process skills was also conducted. Teams had formal weekly meetings in the company conference room to discuss problems, production issues, and team goals. Teams consisted of 10 members working at single-person work stations. Cut garment pieces were supplied to the team and seven functions (or tasks) were required to assemble a garment. Six of the tasks took about the same amount of time, but one task took considerably longer. Therefore, four members and four work stations were dedicated to this task to balance the work flow. Members worked within a few feet of one another, and each one could easily see the other 9.

The tasks were similar in nature and many individuals had been cross-trained to perform more than one. Tasks could be described as sequentially interdependent if production flow alone was considered. However, they could also be thought of as reciprocally interdependent when members moved from station to station, exchanged jobs “on the fly,” and rearranged the order of production steps. The pace of the work and, therefore, the level of production was highly dependent on the individual skills of the team members as exemplified by the fact that production between teams could vary by as much as 100%. All teams used the same type of machinery, equipment,

and supplies. To maximize productivity, and therefore pay, members were free to move from one workstation to another to help others as bottlenecks developed and work piled up at various stations or to use spare machines that were strategically located on the production floor. Team members who were "ahead" in the work at their "home" stations could get supplies for the team or support the team in a variety of other ways. Members could also switch stations to relieve boredom or hone their skills on other tasks. However, team-supporting behavior was not required; those who were ahead could choose to slow down or take a break. This decision was left to individual teams. Even so, managing work processes was important to a team's compensation because work was not counted as completed until all operations had been completed (i.e. garments had been packaged). Teams competed among one another and against their own production goals. Up-to-the minute production figures were posted electronically for all to see. Weekly production averages were posted in the conference room. Accountability was primarily at the team level. A progressive discipline system was in place with the teams responsible for the first two steps. Members' compensation was based solely on team production and all members of a team received equal pay.

Sample 2. A total of 144 production employees from an automotive outsource air bag manufacturer located in the southeast United States took part in this study. On the day the surveys were administered, all manufacturing employees who were present took part. They completed surveys on company time in groups of 18 to 33. Their average age was 31.8 years. They were mostly White (95%), there were slightly more men (55%) than women, 29% had been with the company for over 5 years, and all had finished high school. Nine partially completed surveys were unusable and were subsequently dropped.

Employees were organized into 17 teams that reported to one of four facilitators. Other employees at the plant included the plant manager, a small support staff, maintenance personnel, and several test engineers. The company emphasized teams and teamwork; however, with the exception of participating in the selection of team members, these teams did not have the discretionary latitude of the teams in Sample 1. Employees were extensively trained in quality control and safety. However, because teams had been implemented at this location for only about 2 years, much of the group process training had yet to take place. Like the teams in Sample 1, these teams met weekly. Due to the nature of the product, quality was the dominant topic at these meetings. Team size varied between 6 and 11 workers according to the type of air bag being manufactured (driver, passenger, shoulder/side) and the function the

team performed. The functions included assembly and installation of the airbag deployment device, packing the airbag into its storage container, and the final assembly of the entire unit. Members of each team worked in close proximity and could easily communicate with each other.

Tasks were sequentially interdependent. However, members made suggestions and helped each other as needed. Although the tasks required skilled labor, specific training, and considerable reading and cognitive skills, the pace of the work and, therefore, the level of production depended more on the production machine technology than on the individual skills of the team members. Team members changed positions (tasks) on a specific, regular, and rotating basis. They did so to sharpen skills, relieve boredom, stimulate production and safety suggestions, and maintain flexibility in the event of absences. Teams did not compete directly against each other and compensation was at an individual hourly rate and was not based on production quantity. Quality records were posted and quarterly awards were given for teams achieving specified quality levels. The awards were shared equally by team members. Although the team as a whole was responsible for quality, general accountability was at both the team and individual levels. Facilitators and plant management handled disciplinary issues.

Sample 3. A total of 166 workers from a Benedictine community in the midwest United States took part in the study. Two classes of employees worked at the community, monastic members (Roman Catholic nuns) and lay employees. All those present on the day of the survey took part. The Benedictine community is centered in a monastery that includes a private boarding school, a nursing home, a retreat, and a conference center. Respondents completed surveys on the organization's time in groups of 10 to 30. They averaged 47 years of age, were mostly female (84%) and White (94.7%), and 60% had been with the organization for over 5 years; all had finished high school. Eleven incomplete surveys were dropped.

Workers were organized into 12 teams that reported to one of four leaders of the organization. Management emphasized teamwork and assigned workers to the various teams. Extensive training in teamwork and team process was provided by the organization. Team size varied between 6 and 15 workers and included both lay employees and nuns. The teams worked in one of five subunits, or areas of responsibility. One subunit was the education area, whose tasks included curriculum development, teaching, monitoring and daily supervision of students, and providing counseling services and religious training for students. The second was the community living needs area. Its tasks included cleaning, cooking, dishwashing, and laundry services. The

tasks of the pastoral care area included conducting church services, providing community ministry, and visiting the elderly at nursing homes and hospitals. The health care area operated the nursing home for elderly sisters in the monastery. Tasks included nursing, physical therapy, and care of the nursing home facility. The fifth area was counseling and social services. The tasks included spiritual, marriage, and substance abuse counseling and assisting single mothers and abused women and children. Members of a team worked in the same building and could easily contact each other when needed.

Lay members seldom rotated from one task area to another but could perform different tasks therein. On the other hand, the Sisters often rotated from one task area and, therefore, from one team to another. Due to the specialized training and certification required, teachers worked exclusively in the education area and some nursing home employees worked exclusively in that area. Teams participated in team and organizational goal setting. They were then assigned objectives by the managers and left to determine how best to achieve them. The teams then assigned tasks to members and managed the work. Compensation was based on living needs for the Sisters and on seniority for lay employees. Accountability was at both the team and individual levels with emphasis on achievement of team goals. Teams regularly reported to their managers or the Mother Superior. Jobs varied widely within teams, but with the exception of jobs requiring specialized training and certification, members were trained to perform the different needed functions within their teams. Members were expected to assist others on their team as required. Also, because of the supportive culture and open leadership style, members of one team assisted other teams when needed.

Sample 4. A total of 136 members of 25 quality improvement teams from a large public sector organization located in the southwest United States took part. Participants were obtained by asking for volunteers during quality team meetings. They averaged 43.3 years of age, were mostly male (78.7%), with 88.2% White, 6.6% Latino, 1.5% Asian, and 1% Black. The major difference between this sample and the other three is that the primary job duties of these individuals did not fall within the purview of the team. Instead, individuals served on the teams to provide suggestions and actions plans for improving the quality and efficiency of work. Membership on the teams was voluntary, although highly appreciated, and individuals received no additional compensation. The typical team included members of different ranks. Moreover, membership was cross-functional, so that individuals with different specialties were working together.

MEASURES

Organizational commitment and team commitment. Seven-point Likert-type scales with responses ranging from *strongly disagree* (1) to *strongly agree* (7) were used to measure each construct. The OCQ has been used extensively to measure organizational commitment. It has also been successfully modified to refer to other forms of commitment and commitment to other entities including professional commitment (Grover, 1993; Gunz & Gunz, 1994; Wallace, 1995), occupational commitment (Vandenberg & Scarpello, 1994), departmental and occupational commitment (Vandenberg & Scarpello, 1991), group commitment (Zaccaro & Dobbins, 1989), and team commitment (Bishop & Scott, 2000; Bishop et al., 2000). For Samples 1, 2, and 3, the short form of the OCQ was used to measure organizational commitment. Team commitment was measured by modifying the short form of the OCQ to refer to the team in lieu of the organization. In the case of Sample 4, organizational commitment was assessed using the Affective Commitment Scale (ACS) (Allen & Meyer, 1990). Commitment to quality teams was measured by altering the ACS in a manner similar to that which was used with the OCQ.

POS and PTS. POS was measured by a shortened version of the SPOS. Short forms of the survey have been used with success in previous research (Eisenberger et al., 1986, 1990; Wayne et al., 1997). We wanted to measure POS and PTS with items that would measure the construct accurately, avoid concept redundancy with the commitment scales, and make sense when referring to both organization and team. We chose seven items from the SPOS that met these criteria and loaded among the highest in Eisenberger et al.'s (1986) factor analysis. To measure PTS, the items were modified to refer to the team. For the quality teams (Sample 4) the item "Even if I did the best job possible, my team would fail to notice" was omitted from the PTS scale. Because members' primary duties were performed outside the purview of these teams, we felt that including this item would more likely lead to confusion among the respondents more than it would contribute to measuring the construct. Descriptive statistics appear in Table 2.

ANALYSIS

Item 1 of the team commitment scale was based on the OCQ. Prior research has suggested that Item 1 of the team commitment scale, "I am willing to put in a great deal of effort beyond that normally expected in order for the team to be successful," does not load as expected (cf. Bishop & Scott,

TABLE 2
Means, Standard Deviations, Coefficient Alphas, and Correlations

	M	SD	OC	TC	POS	PTS
Sample 1						
OC	4.92	0.99	(.90)			
TC	4.82	1.02	0.31**	(.89)		
POS	4.15	1.00	0.65**	0.16**	(.88)	
PTS	5.08	1.00	0.17**	0.61**	0.18**	(.90)
Sample 2						
OC	5.27	1.11	(.92)			
TC	5.34	1.11	0.61**	(.92)		
POS	4.77	1.19	0.71**	0.57**	(.93)	
PTS	4.86	1.26	0.52**	0.76**	0.61**	(.93)
Sample 3						
OC	5.84	0.81	(.91)			
TC	5.47	0.95	0.66**	(.90)		
POS	5.66	0.96	0.67**	0.47**	(.90)	
PTS	5.50	1.12	0.56**	0.62**	0.70**	(.90)
Sample 4						
OC	4.54	1.44	(.89)			
TC	4.26	1.08	0.36**	(.81)		
POS	4.27	1.17	0.65**	0.27**	(.87)	
PTS	5.00	1.12	0.28**	0.58**	0.26**	(.89)

NOTE: Coefficient alphas are in parentheses on the diagonal. OC = organizational commitment; TC = team commitment; POS = perceived organizational support; PTS = perceived team support. ** $p < .01$.

2000; Bishop et al., 2000). We confirmed that this result held for all our samples that used this measure. Therefore, this item was dropped from further analysis. Implications appear in the Discussion section.

Part 1: CFA. A CFA was performed in two steps. First, we assessed the covariance matrix of the items for each scale against a one-factor model to determine whether the scale was unidimensional. Second, three manifest indicators of each construct were formed to test the distinctiveness of organizational commitment, team commitment, POS, and PTS. These indicators were formed using the alpha-if-deleted method. That is, each item from a given scale was ranked based on the alpha-if-item-deleted reported with the scale's reliability analysis. The best item was assigned to manifest Indicator 1, the second best to Indicator 2, the third best to Indicator 3, and so on until all items were assigned to an indicator. Forming manifest indicators in this way is consistent with the recommendations of Anderson and Gerbing

(1988) as applied to construct validity studies (Shore & Tetrick, 1991) and enhances the ratio of sample size to parameters estimated. The indices used to assess model fit were the root mean square error of approximation (RMSEA), the non-normed fit index (NNFI), and the comparative fit index (CFI). These fit indices are recommended based on sample size and number of parameters estimated (Gerbing & Anderson, 1992; Medsker, Williams, & Holahan, 1994; Rigdon, 1996).

Part 2: EFA. Because we were interested in item overlap as well as model fit, we employed EFA as well as CFA. With correlated factors, which is the case here, CFA will attribute cross-loadings to factor intercorrelations, thus overestimate how well indicators fit their hypothesized subscales. Therefore, EFA results are important to demonstrate how well items discriminate among the hypothesized constructs. We used principle-axis factoring so that measurement error would be considered and oblique rotation because we expected the factors to be correlated.

Part 3: Structural model. If γ_{11} and γ_{22} in Figure 1 are significant, then Hypothesis 1 will receive support. Numerous studies have proposed POS as an antecedent of organizational commitment (e.g., Bishop et al., 2000; Eisenberger et al., 1990; Wayne et al., 1997) and one has proposed PTS as an antecedent of team commitment (Bishop et al., 2000). To address our research question, we used structural equation modeling (SEM) to test these relationships simultaneously.

RESULTS

CONSTRUCT UNIDIMENSIONALITY

We submitted the items in each scale to a CFA to establish unidimensionality (Anderson & Gerbing, 1988). The results appear in Table 3. The NNFI and CFI suggest that the single-factor models fit the data very well for all scales. The RMSEA indices, however, do not support these models as strongly. The t values indicate that all items load strongly on their intended factors with the exception of team commitment Item 4 based on the ACS (Allen and Meyer, 1990) (“I think that I could as easily become attached to another team as I am to this one”). This item did not load significantly in the single-item model. Even though omission of this item would yield psychometrically “cleaner” measures, we retained it in the analyses because we could think of no theoretically sound reason for its omission. Taken together, the evidence provides adequate support for the one-factor models.

TABLE 3
Results of CFA Tests of Unidimensionality

<i>Scale</i>	χ^2	df	<i>RMSEA</i>	<i>NNFI</i>	<i>CFI</i>
Sample 1					
OCQ	150.85	27	.098	.94	.95
TCQ	80.18	20	.079	.96	.97
SPOS	132.26	14	.133	.90	.93
SPTS	102.95	14	.115	.93	.95
Sample 2					
OCQ	44.78	27	.070	.97	.98
TCQ	54.55	20	.114	.92	.95
SPOS	80.42	14	.188	.86	.91
SPTS	54.59	14	.194	.88	.92
Sample 3					
OCQ	122.70	27	.154	.85	.89
TCQ	47.64	20	.096	.94	.96
SPOS	52.91	14	.137	.90	.93
SPTS	39.29	14	.110	.93	.95
Sample 4					
AMOC ^a	48.28	20	.102	.92	.95
AMTC ^b	48.54	20	.103	.86	.90
SPOS	29.44	14	.090	.94	.96
SPTS	36.18	9	.150	.88	.93

NOTE: RMSEA = root mean square error of approximation; NNFI = non-normed fit index; CFI = comparative fit index; OCQ = Organizational Commitment Questionnaire; TCQ = Team Commitment Questionnaire; SPOS = Survey of Perceived Organizational Support; SPTS = Survey of Perceived Team Support.

a. Items from Allen and Meyer (1990) affective commitment scale.

b. Items based on Allen and Meyer (1990) affective commitment scale.

HYPOTHESIS TESTING

Following the unidimensionality tests, we formed manifest indicators as described above. The correlation matrices of these indicators for each sample revealed that as expected, the indicators of a given construct were generally more strongly correlated with each other than with the other constructs. Even so, there were moderate to strong correlations among all indicators. This is not unexpected inasmuch as we anticipated the constructs to be correlated.

CFA. A four-factor model was estimated in which the manifest indicators were loaded on the hypothesized factors. All fit indices indicate that the four-factor model fit the data well for all four samples (see Table 4). Three alternative models were compared with the hypothesized one. One alternative

TABLE 4
Comparative CFA Models

<i>Model</i>	χ^2	df	RMSEA	NNFI	CFI	$\Delta\chi^2$	Δdf
Sample 1							
Four-factor (hypothesized)	82.58	48	.039	.99	.99	n/a	n/a
One-factor (general affect)	3,308.33	54	.355	.32	.44	3,225.75	6
Two-factor (direction)	1,313.94	53	.223	.73	.79	1,231.36	5
Two-factor (focus)	2,789.00	53	.328	.42	.54	2,706.42	5
Sample 2							
Four-factor (hypothesized)	85.48	48	.076	.96	.97	n/a	n/a
One-factor (general affect)	762.03	54	.313	.61	.68	676.55	6
Two-factor (direction)	406.82	53	.223	.80	.84	321.34	5
Two-factor (focus)	826.37	53	.330	.64	.71	740.89	5
Sample 3							
Four-factor (hypothesized)	81.56	48	.068	.96	.97	n/a	n/a
One-factor (attachment)	600.50	54	.261	.66	.72	518.94	6
Two-factor (direction)	495.59	53	.237	.76	.81	414.03	5
Two-factor (focus)	433.39	53	.219	.77	.82	351.83	5
Sample 4							
Four-factor (hypothesized)	39.95	48	.000	1.00	1.00	n/a	n/a
One-factor (attachment)	664.92	54	.289	.45	.55	624.97	6
Two-factor (direction)	242.60	53	.163	.81	.85	202.65	5
Two-factor (focus)	580.69	53	.272	.52	.61	540.74	5

NOTE: RMSEA = root mean square error of approximation; NNFI = non-normed fit index; CFI = comparative fit index.

hypothesis is that employees experience only a general affective attitude. That is, they can distinguish neither the direction of the commitment nor its related entity. This hypothesis was tested with a one-factor model in which all manifest indicators were loaded on a single factor. The χ^2 difference tests¹ indicated that this model fit the data less well than the hypothesized one. The test statistic for this model was $\chi^2_{(6)} = 15.46$. All fit indices indicate that this model fits the data poorly. The results were consistent across all four samples. This model is labeled “one-factor (general affect)” in Table 4.

A second alternative hypothesis is that employees experience two separate affective attitudes, one related to the organization and one related to the team. That is, they can distinguish between entities with respect to commitment but cannot discern its direction: commitment from them or support from the entity. To test this hypothesis, a model was estimated in which the organization-related indicators (organizational commitment and POS) were

loaded on one factor and the team related indicators (team commitment and PTS) were loaded on the other. The χ^2 difference tests indicated that this model fit the data less well than the hypothesized one. The test statistic for this model was $\chi^2(5) = 13.80$. All fit indices indicate that this model fits the data poorly in all samples. These results are labeled “two-factor (direction)” in Table 4.

A third alternative model tests the hypothesis that employees experience a general commitment-related attitude and a general support-related attitude. That is, they can distinguish between commitment and support but cannot discern the associated entity. This alternative was tested by estimating a model in which the commitment indicators (organizational commitment and team commitment) were loaded on one factor and the support indicators (POS and PTS) were loaded on a second factor. The χ^2 difference tests indicated that this model fit the data less well than the hypothesized one. The fit indices indicated that this model fits the data poorly across all samples. The results related to this model are labeled “two-factor (focus)” in Table 4.

In addition to testing the theoretically derived alternative models described above, we further assessed discriminant validity by employing the test recommended by Anderson and Gerbing (1988). To perform this test, the constructs were tested in pairs. That is, we estimated a two-factor model in which two sets of indicators were allowed to load on their intended factors; then we constrained the estimated correlation parameter between them to 1.0, reestimated the model, and then performed a χ^2 difference test. A significantly lower χ^2 for the unconstrained model is evidence of discriminant validity. The reason for testing in pairs is because “a nonsignificant value for one pair of factors can be obfuscated by being tested with several pairs that have significant values” (Anderson & Gerbing, 1988, p. 416). Results in all samples supported discriminant validity.

EFA. Because we were interested in item overlap, we subjected the items from all four samples to an EFA. The factor loadings for Samples 1, 2, and 4 show no serious cross-loadings. The results for Sample 3 were different. A separate factor was extracted on which three items loaded, Item 3 of both the organizational and team commitment scales and Item 3 of the PTS scale. In summary, Hypothesis 1 was supported based on the data from Samples 1, 2, and 4. The CFA of the Sample 3 data also supports Hypothesis 1. However, the EFA results for Sample 3 were only marginally interpretable in light of our a priori theory and the results of the other samples, suggesting further analyses should be done.

FURTHER ANALYSES OF SAMPLE 3 DATA

Because they loaded on a separate factor, we examined the contents of OC3 (organizational commitment 3) and TC3 (team commitment 3). The items state, "I would accept almost any job in order to keep working with this [company] [team]." We recall from the description of Sample 3 that the workers were highly diverse across a number of dimensions including education (high school through master's degrees), job descriptions (dishwashing and housekeeping through teaching and counseling), job complexity (semiskilled through those requiring advanced degrees and/or certifications), and religious connection (lay persons through nuns). Hence, we concluded that Items OC3 and TC3 were not reasonable to tap the affective commitment felt by members of this organization. We removed these items and reanalyzed the data. (Although Item 3 of the PTS scale also loaded with these items, we could think of no theoretically sound reason to remove it, so it was retained.) The results of the reanalysis replicated the previous CFA findings in that the EFA results indicated four factors, as predicted. Although two organizational commitment items cross-loaded on the POS factor, this circumstance is mitigated by the relatively modest size of the sample. The removal of the two items was based on post hoc analysis and is discussed more fully in the Discussion section.

STRUCTURAL MODEL

We estimated the model shown in Figure 1 (solid lines) for each sample. Each set of data fit the data well and γ_{11} and γ_{22} were significant across all samples, supporting Hypothesis 2. The results are presented in Table 5 and labeled Model 1. The results for Sample 3 are based on the reformed manifest indicators for organizational and team commitment with Items OC3 and TC3 removed. We also estimated the model using Sample 3 data with these items included. The results were the same. Additionally, we estimated the model for each sample with γ_{12} and γ_{21} freed. The results are labeled Model 2 in Table 5. We did this to confirm the expectation that the support variables would predict commitment associated with the corresponding entity more strongly than they would predict commitment to the other entity. In no sample did freeing the two paths cause the model to fit the data significantly better as measured by the χ^2 difference test. However, in the case of Sample 2, PTS significantly predicted organizational commitment. The possible implications of this result are explicated in the Discussion section that follows.

Because γ_{12} was significant in Sample 2, we compared its relative strength with γ_{22} with the expectation that PTS should predict team commitment

TABLE 5
Results of Structural Model Comparisons

Sample	Model ^a	χ^2	df	RMSEA	NNFI	CFI	γ_{11} ^b	$t(\gamma_{11})$	γ_{22} ^b	$t(\gamma_{22})$	γ_{12} ^b	$t(\gamma_{12})$	γ_{21} ^b	$t(\gamma_{21})$	$\Delta\chi^2$	$\Delta\chi^2(2)$
1	1	83.80	50	.038	.99	.99	.72***	16.13	.67***	14.11	—	—	—	—	—	—
	2	82.58	48	.039	.99	.99	.71***	15.37	.67***	13.66	.05	1.22	.02	0.54	1.22	(n.s.)
2	1	91.32	50	.079	.96	.97	.76***	8.98	.83***	9.90	—	—	—	—	—	—
	2	85.48	48	.076	.96	.97	.65***	6.63	.75***	7.86	.17*	1.96	.13	1.65	5.84	(n.s.)
3	1	85.45	50	.069	.96	.97	.79***	9.37	.70***	8.32	—	—	—	—	—	—
	2	81.56	48	.068	.96	.97	.73***	6.28	.67***	5.27	.08	0.80	.05	0.44	0.46	(n.s.)
4	1	44.05	50	.000	1.00	1.00	.74***	8.59	.68***	7.45	—	—	—	—	—	—
	2	39.95	48	.000	1.00	1.00	.71***	8.05	.66***	7.00	.11	1.45	.10	1.18	4.08	(n.s.)

NOTE: RMSEA = root mean square error of approximation; NNFI = non-normed fit index; CFI = comparative fit index.

a. Model 1 is estimated with γ_{12} and γ_{21} constrained to zero. Model 2 is estimated with γ_{12} and γ_{21} freed.

b. Completely standardized path coefficients.

* $p < .05$. *** $p < .001$.

more strongly than organizational commitment. We did this by restricting $\gamma_{22} = \gamma_{12}$ and comparing the fit of the resulting model with that of the unrestricted model. As expected, the restricted model fit the data less well than the unrestricted one, $\Delta\chi^2_{(1)} = 29.70$, indicating that γ_{22} was significantly greater than γ_{12} .

DISCUSSION

Shore and Tetrick (1991) point out that “given the popularity of commitment measures among researchers, it is critical to carefully evaluate the construct validity of each new measure prior to its extensive use” (p. 640). This admonition is particularly salient because the idea of employee commitment has expanded to include commitment to multiple organizational entities and multiple entities from which employees may detect varying levels of appreciation for their contributions and care for their well-being (i.e., support).

CONTRIBUTIONS

In keeping with the Shore and Tetrick (1991) mandate, this research was designed to contribute to the study of employee commitment in several ways. First, examination of the factor structures of the respective scales have provided support for the unidimensionality of the measures of team commitment and PTS and confirmed Shore and Tetrick’s findings of unidimensionality for the measures of organizational commitment and POS. Second, evidence has been provided that team commitment, organizational commitment, POS, and PTS are empirically distinguishable, as well as conceptually distinct. Thus, researchers are able to detect and measure employees’ capacity to distinguish between both the direction of commitment and the entity with which it is associated, at least in the case of the organization and team. These findings are also meaningful because of the abundance, and in some cases redundant, commitment-related concepts and measures that appear in the literature (Morrow, 1983). In obtaining these results, we have necessarily replicated Shore and Tetrick’s finding that organizational commitment and POS are empirically distinguishable. However, this replication is particularly meaningful inasmuch as it took place in the presence of a number of possible confounds: two additional constructs and three additional relationships.

Third, the results of this study support the notion that social exchange relationships and reciprocity attitudes and behaviors can exist between an individual and multiple entities simultaneously and independently within an organization. This conclusion is tempered somewhat due to the finding,

across all samples using the OCQ, that Item 1 of the team commitment scale did not load as expected. TC1 refers to the entity on the behalf of which employees are willing to put forth extra effort. Apparently employees do not or cannot differentiate as clearly for whom or what they put forth additional effort as they do with regard to the other dimensions of commitment represented by the other scale items. This result should be interpreted in light of the fact that organizations implement teams and design team tasks to benefit the organization. Therefore, in a well-designed team-based organization, effort on behalf of the team is also on behalf of the organization and vice versa. Even though this is a post hoc finding, it was consistent with prior research and with all samples in this study that used this item. Therefore, we conclude that this result is an indication that further research should be directed toward examining the relationships between employees' efforts and their attitudes toward entities that benefit from their efforts.

Fourth, our hypothesis was confirmed across four samples that differed with respect to how the organizations and teams were designed (see Table 1). This supports the generalizability of Hypothesis 1 by suggesting that employee ability to discern team and organizational support and commitment constructs is robust across a variety of environments. Fifth, our hypotheses were confirmed using two different measures of organizational and team commitment. Sixth, we used several empirical methods to address our research question, CFA, EFA, and SEM. An important result of the inclusion of EFA is that it led to the reexamination of the individual scale items. In particular, the applicability of Item 3 of the organizational and team commitment scales based on the OCQ were called into question with respect to Sample 3. This reexamination suggests that researchers should consider the applicability of the wording and meaning of their survey items with respect to the environment in which their respondents work. Even so, we strongly caution against altering or omitting items from established scales without strong rationale for doing so.

Seventh, our results have indirect implications for practitioners in the following way. Managers who survey their employees may, on a given occasion, be concerned about more than one of the variables discussed here and their relationship with other variables of interest. Our results indicate that such surveys are likely to produce valid and reliable results, at least as for as organizational and team commitment and perceived support are concerned.

Our structural modeling results supported the hypothesis that the perceived level of support employees receive from an entity predicts the level of commitment they have for that same entity. The results also revealed that in the case of Sample 2, PTS predicted organizational commitment. A possible explanation may lie in team structure and attributes. Contrasting the

attributes for the Sample 1 and Sample 2 teams (see Table 1) we notice that the teams differ in that the Sample 1 teams experience direct competition between teams, are accountable and evaluated only at the team level, are compensated only for team production, and production is determined primarily on individual skills and effort rather than machine speed and accuracy. These conditions may prompt team members in Sample 1 to perceive their teams more as independent businesses and less as integral organizational units whose primary *raison d'être* is to pursue organizational goals. On the other hand, if the team is perceived as an integral component of a larger entity, namely, the organization, members may view the organization as the source of some of the support they receive from their teams. That is, the team serves as a conduit for the organization's demonstrating its value of individuals' contributions and its care for their well-being. In such a case, social exchange theory would suggest that an appropriate reciprocation would be commitment to the organization. (Sample 3 teams were units within a faith-based organization in which commitment to the Roman Catholic faith was paramount. Sample 4 teams were quality teams in which members spent only a portion of their work time. Therefore, we did not include them in this commentary.)

Future research should be undertaken to ascertain the circumstances under which perceived support from one entity will predict commitment to another and by way of a corollary, the circumstances under which perceived support from an entity may mediate the support from another. Furthermore, it seems possible that the extent to which teams are made more autonomous; are held accountable, evaluated, and compensated at the team level versus the individual level; and are placed in direct competition with other teams, a set of circumstances may occur such that teams may pursue their own goals and objectives to the detriment of the organization rather than to its benefit. Future research may contribute to the field by examining conditions that could promote such circumstances as well as preclude them.

LIMITATIONS

As with all field studies, certain limitations should be acknowledged. First, teams can be formed in numerous ways within an organization, and the context of the organization can influence employee perceptions of organizational entities. This study in no way exhausted the permutations possible for such formations. Second, although our hypotheses were tested across teams with varying characteristics, they were not tested in situations where employees are members of multiple teams. These circumstances represent opportunities for future research. Nevertheless, our four samples were

certainly diverse. Although other types of teams exist, a strength of this study is that our hypotheses held in four distinct sets of teams.

In research of this kind, one recurrent concern is method variance. That is, it is plausible to argue that the relationships among the study variables could have been inflated because they were all taken from a single source—the individual employee. Given the nature of our constructs, as well as the theoretical reasons for their relationships, it was necessary to assess these variables from the perspective of the same individual. As individual ratings are the theoretically appropriate means of assessing commitment and support, we could not use ratings from other sources to control for method variance. Spector (1994) notes that self-reports can be quite useful for deriving insights about how people feel about and react to their jobs and relationships among various feelings and perceptions and that “the reasonableness of using self-reports depends upon the purpose of the study” (p. 387). Because method variance results when all of the study variables are taken from a single rater, it would be expected to increase the correlations among the different scales. Moreover, because method variance is usually understood as single factor (corresponding to the single source), it would bias against our finding the multifactor structures that we consistently obtained across the four samples. In a sense, the fact that we predicted four factors, while taking the measures from a single source, makes our findings more conservative. For this reason, we do not view method variance as a major threat to our conclusions.

CONCLUSIONS

This study was an important step in confirming the construct validity of perceived team support and team commitment. It also demonstrated that researchers can successfully measure several support and commitment constructs from the same sample and achieve empirical distinctiveness. The utility of this ability is that it allows the relationships among other constructs of interest and various support and commitment constructs to be tested when strong theory suggests that they exist.

NOTE

1. When a number of χ^2 difference tests are performed to test competing models, the significance level for each test should be adjusted to maintain the overall significance level for the family of tests. The adjustment formula is $\alpha_o = 1 - (1 - \alpha_i)^t$, where α_o is the overall significance level (usually .05), α_i is the significance level used for each individual test, and t is the number of tests performed (Anderson & Gerbing, 1988).

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