Team Culture Perceptions, Commitment, and Effectiveness: Teamwork Effects[1]

Orly Shapira-Lischshinsky
Bar Ilan University
Vicki Aziel
Ministry of Education, Israel

Abstract

This study sought a model for describing relations between teachers' team culture perceptions, organizational commitment, and school effectiveness by considering the effects of the school's focus on teamwork. The paper presented an integrative approach by combining multiple constructs that previously had for the most part been investigated separately.

A total of 375 elementary teachers participated. SEM was applied to examine the proposed model. Results indicated that in all schools, teachers' affective commitment mediated the relations of teachers' team culture perceptions with students' achievements and teachers' voluntary absenteeism, whereas normative commitment mediated the relations between teachers' team culture perceptions and teachers' intent to leave. Teachers who focused on teamwork presented a relatively "strong comprehensive" team cultural profile in their schools; whereas teachers working routinely presented a relatively "weak comprehensive" team profile. Findings encourage developing a strong comprehensive profile of team culture through teachers' workshops and weekly team meetings.

Keywords: teamwork, team culture, organizational commitment, school effectiveness, absenteeism, teachers

Introduction

The central goals of the educational system are to improve the effectiveness of teaching and to respond to student needs. To realize these goals, it is insufficient to develop the professional skill of each teacher as an individual. Teamwork in schools should provide a learning community that enhances each member's continual improvement (Somech & Drach-Zahavy, 2007). However, a review of the educational literature reveals that theory and research in school teamwork lag well behind the current models in the organizational behaviour literature.

Teamwork among school teams is becoming increasingly important for several reasons: First, teamwork makes teaching more than a process experienced by professionally isolated individuals in their respective classrooms. It enables a professional growth process in which teachers learn together and share knowledge and expertise (Newmann et al., 2000). Second, team-based organizations are characterized by shared control; opportunities for participation based on knowledge; and enhanced autonomy that allows for better adaptability and continual adjustment (Conner & Douglas, 2005). Third, the field of teaching has become more complex and sophisticated; therefore, effective teaching requires the synergy of teachers from different points of view (Porter-O'Grady & Wilson, 1998).

However, some researchers point to the disadvantages of teamwork (e.g., Snell & Swanson, 2000). For example, Weiss et al., (1992) showed that the transition to teamwork led to conflicts and tensions among teachers, which affected their solidarity and work satisfaction at school. Moreover, Godard (2001) indicated that teamwork in schools is still limited and, when implemented, focuses on a very restricted realm of tasks. Therefore, the main aim of this study is to investigate whether there is an optimal model for describing the relations between teachers' team culture perceptions, organizational commitment, and different dimensions of school effectiveness by considering the effects of the school's focus on teamwork.

Whereas previous research tended to focus on single, selected aspects of school effectiveness (Bowers, 2001; Gaziel, 2004; Imants & Van Zoelen, 1995; Ingersoll, 2001; Myburgh & Poggenpoel, 2002; Rosenblatt & Shirom, 2005), this study deals with a spectrum of aspects and their interrelations: students' achievements; teachers' and students' absenteeism, and teachers' intent to leave. We selected these predictors and effectiveness constructs because of intensive research interest in recent years.

The Importance of Teamwork

Teams are social systems of two or more people that are embedded in an organization (context), whose members perceive themselves as such and are perceived as members by others (identity), and who collaborate on a common task (teamwork) (Hoegl, 2005). The total coordinated and cooperative efforts of people who are working together are named teamwork (Karakus & Toremen, 2008). The advantages of teamwork are taken almost for granted, given the extensive coverage in recent education literature.

In schools, teamwork offers the potential to achieve outcomes that could not be achieved by individuals working in isolation (Drach-Za-

havy & Somech, 2002). In educational systems, teams play a central role in identifying students' needs, in planning and developing policies at the class and school levels, and in implementing innovation in teaching and school design (Somech, 2008).

Nevertheless, tasks in schools are often structured for the individual. The teacher's main socialization into the teaching profession is characterized by an individualist approach, where teachers undergo training and develop their careers independently of their staff colleagues (Somech & Drach-Zahavy, 2007). Thus, a transition to teamwork may threaten teachers' sense of autonomy and may confront them with conflicts, which in turn may impair school effectiveness.

Team Culture Perceptions

In the current study, the concept of teachers' team culture perceptions was taken from Quinn's (1988) "competing values model," which suggests four patterns of value frameworks on two axes: horizontal and vertical. The horizontal axis moves from internal focus (concern for the employee's welfare) to external focus (on the environment and clients). The vertical axis, ranging from flexibility (the ability to adapt the organization to change) to control (managerial values of stability). Based on the crossover of these axes, Quinn devised four team culture perceptions: *clan*, which emphasizes the group and cooperation in decision making; *adhocracy*, which emphasizes innovation and creativity; *hierarchy*, which emphasizes rules, stability, and orderly decision-making processes; and *market*, which emphasizes productivity and efficiency, alongside planning and management according to targets.

The competing values theory is named as such because, in practice, different organizations are characterized by different combinations of contradictory values. Previous studies (Cameron & Freeman, 1991; Quinn, 1988; Quinn & Spreitzer, 1991; Yeung et al., 1991) found that balanced cultural profiles that scored high across three to four culture dimensions (labeled "strong comprehensive cultures") were the best performers. In contrast, cultures that emphasized one to two culture quadrants at the expense of the other values (labeled "weak comprehensive cultures") performed more poorly than the other cultures examined.

Previous studies (Kimberly & Quinn, 1984; Lamond, 2003; Quinn, 1988; Quinn et al., 1991) suggested that a balance of competing organizational perceptions is important in achieving individual effectiveness and well-being. These studies argued that accentuating one or two culture perceptions while ignoring others may lead to poor effectiveness. In their opinion, effectiveness results from maintaining creative tension between contrasting perceptions in the social system. An emphasis on one culture

dimension at the expense of the others leads to narrow-mindedness and rigidity, precluding adaptation to changing circumstances.

In schools, perceptions of team culture may be expressed as the basic assumptions, norms, values, and cultural artifacts that are shared by team members, which influence their functioning at school and play a significant role in enhancing school effectiveness (Engels et al., 2008). Quinn's (1988) model as applied to the school context reflects the extent to which: (a) the school vision is shared by the team members and they participate in decision making (clan culture); (b) the teachers plan their pedagogical activities according to the school vision in professional teams (market culture); (c) the team members have an open attitude towards change (adhocracy culture); and (d) the rules and regulations that characterize the school bureaucratic structure make the team members more bureaucratic in their behaviours (hierarchy culture).

Organizational Commitment

Organizational commitment is defined as 'a bond linking the individual to the organization', making it difficult for the employee to leave (Mathieu & Zajac, 1990: 171). According to Meyer and Allen's (1997) widely used theory, organizational commitment has three components: affective, normative, and continuance. *Affective commitment* refers to the teacher's emotional attachment to the organization, identification with it, and involvement in it. Teachers with a strong affective commitment continue employment with the organization because they want to. *Normative commitment* reflects a feeling of obligation to continue employment, such that highly committed teachers feel that they ought to remain with the organization. Teachers whose primary link with the organization is based on *continuance commitment* remain on the job owing to their awareness of the cost of leaving. They stay in the organization because they need to.

Meyer et al., (2002) demonstrated differential links between the three commitment types and withdrawal cognitions, including turnover intentions. Withdrawal behaviours refer to a set of attitudes and behaviours used by employees who remain at a job but for some reason decide to be less participative (Kaplan et al., 2009). In Meyer et al.'s (2002) study, affective commitment had the strongest negative correlation with these withdrawal behaviours, followed by normative commitment. Continuance commitment was unrelated or negatively related to withdrawal. These studies indicated that both affective and normative commitment are more dominant than continuance commitment in predicting withdrawn performance. Accordingly, here we focus on the affective and normative commitment dimensions.

School Effectiveness

In the last decade, there has been a burgeoning literature on school effectiveness. Various researchers used different definitions for this term, as well as many approaches, concepts, and models (Bowers, 2001; Felfe & Schyns, 2004; Gaziel, 2004; Rosenblatt & Shirom, 2005). Despite the different perspectives, a generally accepted definition is the school's performance or output – the degree to which schools achieve their goals in comparison with other schools that are equalized (Scheerens, 2000), for example, in terms of students' socio-demographic characteristics or school size. In light of the numerous variables used in previous studies to measure this output (Griffeth et al., 2000; Shaw et al., 2005), in the present study we selected the most discussed factors in the educational literature from two different perspectives: teachers' (absenteeism and intent to leave school) and students' (absenteeism and achievements). Next we will explain each factor.

Teachers' Absenteeism

The first measure of school effectiveness, work absenteeism, is 'the lack of physical presence at a behaviour setting when and where one is expected to be' (Harrison and Price, 2003: 204). Sagie (1998) distinguished between two basic types of absenteeism: *voluntary absences*, which are normally under the direct control of the employee and are frequently utilized for personal issues, such as testing the market for alternative prospects of employment; and *involuntary absences,* which are usually beyond the employee's immediate control (e.g., bereavement leave). Voluntary absence is normally measured by its frequency, such as the number of absence incidents, whereas involuntary absence is typically measured by time lost: an absence spell of 10 days is counted higher than a spell of three days; with the frequency measure, each of the two is scored equally as one absence episode.

Recent reviews of the literature emphasize absenteeism as a variable related not only to individuals' demographic characteristics but also to organizational environment and social context (Felfe & Schyns, 2004; Martocchio & Jimeno, 2003; Xie & Johns, 2000). In educational research, teacher absenteeism was found to be negatively related to the school culture's attendance norms (Bowers, 2001; Myburgh & Poggenpoel, 2002) and to the principal's supportive leadership style (Imants & Van Zoelen, 1995). These studies showed that teachers react to undesired social elements in their workplace context by staying away from work. In line with this research on educational institutions, we expected teachers' absence frequency (voluntary absence) to increase when they perceived a low team culture or low commitment to their organization.

Students' Absenteeism

The second measure of school effectiveness, student absenteeism, is a major concern at every level of education. When students are absent from class, they miss valuable information provided by the teachers' interaction and by the specific examples that teachers use to clarify difficult concepts. This valuable part of the learning experience cannot be replicated when teachers re-teach the material to absentee students. In addition, students who frequently miss class often do not feel a sense of belonging to the classroom community, and they do not recognize that when they are absent learning declines and students' and teachers' morale decrease, and academic standards are compromised (Westrick et al., 2009).

For teachers, student absenteeism also causes rework and wasted time; for example, teachers must spend class time re-teaching lessons, thus deducting instructional time from regularly attending students (Weller, 2000). Previous studies indicated that teachers who are frequently asked to spend time with students for rework assignments due to absenteeism view teaching less positively than teachers whose students have low absentee rates (Hallinan, 2008; Kearney, 2008).

Economically, student absenteeism is also costly in terms of the efficient use of administrator time. Many secondary schools have assistant principals who are assigned either part-time or full-time to attend to student attendance and discipline problems. These administrators, trained as instructional leaders, spend most of their time on non-instructional matters, which translates into the inefficient use of their time and training. In some schools, clerical staff members are also employed to help assistant principals with record keeping. In other schools, home-school officers are employed to make daily telephone calls to parents and visit students' homes to verify the legitimacy of their absences. Salaries and travel costs for these staff members are expensive and also deduct monies from the instructional program (Spencer, 2009; Weller, 2000).

Healthy childhood development, which includes education and high school completion, is dependent on students' regular school attendance. Students who are excessively absent from school are at risk for various negative health and social problems. Decades of research have shown that excessive school absenteeism is an indicator of anxiety, depression, and risky behaviours. Poor school attendance also may lead to academic problems and school dropout, juvenile delinquency, and poor marital and familial attachments later in life (Dube & Orpinas, 2009).

Students' Achievements

Achievement goal theory has emerged as a major new direction in motivational research (Liu et al., 2006; Pei-Hsuan Hsieh et al., 2008). This theory focuses on the aims that students perceive in an achievement setting. The focus is on how students think about themselves, their tasks, and their performance (Ames, 1992). Theorists (e.g., Elliot & Harackiewicz, 1996; Weiner, 1990) have described two achievement goals in particular: to develop ability (variously labeled a task, learning goal, or mastery goal), and to demonstrate ability or avoid the demonstration of lack of ability (variously labeled an ability goal, ego goal, or performance goal) (Midgley et al., 1998).

Researchers have consistently found that students who adopt the goal to develop ability tend to have higher self-efficacy, more positive learning patterns (e.g., paying more attention in class, processing information more meaningfully), and higher achievements. In contrast, students with performance- avoidance goals tend to have lower self-efficacy, show less challenge-seeking behaviours, and attribute lower intrinsic value to learning (Liu et al., 2006; Pei-Hsuan Hsieh et al., 2008).

Social cognitive theory specifies that teachers' perceptions of self and group norms influence their actions. According to Coleman (1987), norms develop to permit group members some control over the actions of others. Collective beliefs shape school environment and teachers' commitment, which may have a strong influence over teachers' behaviours. Thus, if most teachers in school are highly committed, it will pressure teachers to persist in their educational efforts despite temporary failures and to accept responsibility for students' achievement. Moreover, when a teacher's actions are incongruent with the shared beliefs of the group, the pressure to perform will be accompanied by social sanctions from group members (Goddard et al., 2000). Support for this theory can be found in Lee and Loeb's (2000) study, which demonstrated that teachers' collective responsibility showed a positive influence on student learning.

The clear implication of Wright et al.'s (1997) study, derived from analyses of subsets of data from the 1994 and 1995 TCAP scores for five subjects (math total, reading total, language total, social studies, and science) and three grades (third, fourth, and fifth), is that the effectiveness of teachers can do more to improve education than any other single factor. Effective teachers appeared to be effective with students regarding all five subjects, regardless of the level of heterogeneity in their classrooms. If a teacher was ineffective, students under that teacher achieved inadequate progress academically, regardless of the subject and regardless of students' heterogeneity in academic achieve-

ments. Therefore, in this study, we aggregated the different subjects' scores to one parameter – students' achievement.

Teachers' Intent to Leave School

The fourth measure of school effectiveness, intent to leave school, is the degree to which teachers want to exchange their present jobs for others elsewhere (Hanisch & Hulin, 1991). Research has shown consistently that teachers leave their work because of lack of satisfaction and burnout (Fore et al., 2002; Guglielmi & Tatrow, 1998; Hale-Jinks et al., 2006). The importance of studying teachers' intent to leave school cannot be overstated. Teachers with such intentions to leave are likely to reduce their efforts at work (Maertz & Campion, 1998), which in turn lowers their productivity and may affect their colleagues' motivation and efforts (Tett & Meyer, 1993). Moreover, intent to leave is normally viewed as a proxy for actual voluntary turnover (Ladebo, 2005; Price & Mueller, 1986; Steel & Ovalle, 1984), which is one of the behaviours most detrimental to organizational effectiveness (Shaw et al., 2005).

Intent to leave, as a predictor of voluntary turnover, is a key concern in educational systems for securing and maintaining a qualified workforce (Smylie & Miretzky, 2004). Containing teachers' intent to leave is becoming a primary target of school administrators, and not only because of its considerable cost to human resource management (Harris et al., 2005). In schools, this factor poses a problem that carries unique organizational and pedagogical implications. Often those teachers who consider leaving school are the more qualified ones, which jeopardizes teaching standards in the school (Ingersoll, 2001). Because teacher quality depends, among other things, on experience, intent to leave school can damage school reputation and faculty cohesion, and consequently school effectiveness (Ingersoll, 2004).

Hypotheses Based on Interrelations Between the School Effectiveness Measures

Previous studies indicated that the four selected measures of school effectiveness may interrelate. For example, teacher absence was shown to reduce student motivation to attend school and thus may increase student absenteeism (Ehrenberg et al., 1989; Imants & Van Zoelen, 1995). Interruptions in the continuity of the students' instruction, due to their absenteeism, contribute to lower achievements (Woods & Montagno, 1997).

Several models may explain the relations between teachers' absenteeism and their intent to leave school, which comprise two key indicators of withdrawal symptoms. For example, the spillover model posits that withdrawal behaviours are positively related (Beehr & Gupta, 1978); thus, an individual is likely to react to certain an-

tecedents with a set rather than with just one withdrawal behaviour (Koslowsky *et al.*, 1997). In line with this model, we expected to find positive relations between teachers' voluntary absence and their intent to leave school. Our first hypothesis was as follows:

H1. The four dimensions of school effectiveness will be interrelated:

a. Teachers' voluntary absence will correlate positively with students' voluntary absence.
b. Students' voluntary absence will correlate negatively with students' achievements.
c. Teachers' voluntary absence will correlate positively with teachers' intent to leave.

Hypothesis based on comparison between schools that focus on teamwork versus schools that work routinely

People who work together closely become more productive and more satisfied in their jobs, which may affect their organizational commitment, cohesiveness, and effectiveness. In addition, working in teams increases an organization's capacity to process complex information, and skilled teams may be able to engender more creative solutions to problems (Stott &Walker, 1999). Previous studies indicated that positive perceptions of teamwork among teachers improve school effectiveness (Somech & Drach-Zahavy, 2007) as well as organizational commitment (Quinn & Restine, 1996). All these lead to our second hypothesis:

H2. Teachers' perceptions of team culture, organizational commitment, and school effectiveness will be more positive in schools that focus on teamwork compared to schools that work routinely.

Hypothesis based on the mediating effect of organizational commitment

According to Ajzen and Fishbein's (1980) and Mueller's (1986) "perceptions-attitudes-behaviour" sequence theory, work perceptions (which are normally abstract) lead to attitudes (which are normally directional – positive or negative), and attitudes lead to behaviours. Studies have shown that people who behave in different ways also differ predictably in their attitudes and perceptions. It follows that "strong comprehensive team culture" perceptions may lead to positive attitudes concerning organizational commitment, which will lead in turn to high school effectiveness.

Research has shown that many of the benefits associated with team culture perceptions are related to the individual's level of commitment to both the organization and the work team (Bishop et al., 2006). Re-

garding team culture perceptions, the literature on work design has long suggested that employees are likely to be more highly motivated and committed to their work when their social- psychological needs are fulfilled. When teachers work together in the context of teams and develop a shared belief, they feel a greater sense of belonging and identification. The atmosphere of sharing enables teachers to discuss problems and work collectively, which may enhance their organizational commitment (Somech, 2005).

Organizational commitment is a powerful predictor of school effectiveness. Committed teachers reveal greater job effort and involvement, and are less likely to leave their positions and display other withdrawal behaviours, such as absenteeism (Aube & Rousseau, 2005). Hulpia and Devos (2009) claimed that organizational commitment is a critical predictor of teachers' job performance, as commitment is necessary for teachers to maintain motivation for their practice while confronting the complex demands posed by teaching. Thus, based on previous studies indicating that team culture perceptions relate to organizational commitment and that organizational commitment relates to school effectiveness, we predicted:

H3. Organizational commitment will mediate the relations between teachers' team culture perceptions and school effectiveness.

Figure 1 demonstrates the study model and Hypothesis 3. (for all figures and tables see appendix).

Method
Study Socio-Demographic Characteristics
Participants comprised 375 teachers from 12 Israeli elementary schools (Grades 1-8): 190 teachers from six schools working according to the same new teamwork-focused work plan that was developed by their school mentors, and 185 teachers working according to their schools' regular work plans (without defining teamwork as a main objective).

The new teamwork program focused on four main principles: (a) exchanging information – the degree to which team members update one another on matters related to their work; (b) motivation – the degree to which team members have specific goals to which they are commit ted; (c) negotiation – the degree to which every team member can influence what happens in the team; and (d) learning – the degree to which team members are willing to consider their work methods critically. These principles of the new plan are manifested in team members' educational activities (e.g., jointly building curricula for their

subject domain, organizing educational activities together, holding decision-making meetings).

No significant differences emerged between the two groups of schools (new plan/routine work) regarding school size or teachers' gender, seniority, or educational degree. Therefore, the following socio-demographic data is presented for both groups together.

The 12 elementary schools were similar in size (averaging 200 students per school) and were all located in central Israel. The average number of teachers at each school was 31.05 (SD = 4.7). The sample comprised 96% women, and participants' mean seniority was 16.25 years (SD = 8.01). The majority (70%) of the teachers in the sample held a Bachelor's degree, and 23% held a Master's degree. The remainder held non-academic qualifications. These characteristics are representative of elementary school teachers in Israel (Israel Central Bureau of Statistics, 2005).

Procedure
Letters explaining the study's purpose, methods, and anonymity provisions (per the Helsinki Treaty) were sent to these 12 schools, identified as socio-demographically similar, and all 12 school principals consented to participation. Teachers were encouraged by their principals to complete questionnaires voluntarily on school premises, during their free time. A mean response rate of 75% emerged among the teachers in these 12 schools. Research assistants collected the questionnaires. With the permission of the Israeli Ministry of Education, we obtained data from the schools on students' achievements and absenteeism, and on teachers' absenteeism and their intent to leave.

Data Collection
Data were collected via a two-phase design. In the first phase, the teachers completed three questionnaires: team culture perceptions, organizational commitment, and background characteristics. Questionnaire sets were given a numerical code representing the teacher and school. In the second phase, 6 months later, each school secretary provided the researchers with anonymous records for students' achievements, students' absences, teachers' absences, and teachers' transfer requests for the preceding six months. These records were marked with the corresponding school, teacher, and class codes to enable linkage to the teachers' earlier questionnaires.

Instruments
Student achievements in each school were measured by the entire student body's average academic grades in Hebrew language and

mathematics on the annual "Meitzav" national growth and effectiveness tests. Data were based on reports that school principals received from the Ministry of Education.

Students' and teachers' voluntary absences were based on school absence frequency records (number of absence episodes). The duration of each absence event was disregarded because voluntary absence is normally measured by its frequency (Sagie, 1998). We chose a six-month period to obtain a valid and reliable picture of teachers' and students' absenteeism. We excluded all involuntary absences (e.g., for teachers: maternity leave, military reserve service; for students: mourning in the family).

Teachers' intent to leave their school was measured by the number of transfer requests made by all the teachers in the school over the spring semester (when all annual transfer requests are processed). Requests to transfer to another school could stem in this study from an unwillingness to continue teaching in that school, dissatisfaction with work, inability to achieve self- fulfillment, lack of promotion and interpersonal problems. We excluded all involuntary requests to transfer (e.g., moving to another area because of spouse's work).

Team culture perception was measured by Krakower and Niwa's (1985) 16-item Institutional Performance Survey (4 items per dimension), scored on a 5-point Likert scale ranging from 1 (*low*) to 5 (*high*). The four dimensions of team culture perceptions were: clan (e.g., "Our team creates common goals;" Cronbach a = .81); adhocracy (e.g., "Our team makes changes easy to implement;" a = .88); hierarchy (e.g., "Our team clarifies roles;" a = .89); and market (e.g., "Our team fixes real problems;" a = .90).

Organizational commitment was measured by two of Meyer and Allen's original (1997) components: affective commitment (8 items like "I really feel as if this school's problems are my own;" a = .90), and normative commitment (8 items like "One of the major reasons I continue to teach at this school is that I believe loyalty is important;" a = .87). All 16 items were scored on a 5-point Likert scale ranging from 1 (*low*) to 5 (*high*).

Mediation Analysis

The aim of the mediation analysis was to test whether the relations between team culture perceptions and school effectiveness were due partly to a mediation effect of organizational commitment (Hypothesis 3). To test this hypothesis, we utilized structural equation modeling (SEM) using AMOS.

Result

Table 1 presents the descriptive statistics for the study variables. On the whole, correlations among the study variables were as expected. All dimensions of each factor (team culture perceptions, organizational commitment, and organizational effectiveness) were significantly intercorrelated at levels ranging from medium to high. The intercorrelations between teachers' and students' absence frequency, students' achievements and teacher's intent to leave confirmed our integrative approach to organizational effectiveness.

The four different dimensions of organizational effectiveness were significantly related to all four dimensions of team culture perceptions. Both dimensions of organizational commitment were related to all four dimensions of team culture perceptions. Affective commitment was significantly related to students' achievement and teachers' absence frequency while normative commitment was significantly related to teachers' intent to leave, thus providing the basis for examining the mediating effect of organizational commitment between team culture perceptions and organizational effectiveness.

The data in Table 1 supported Hypothesis 1, demonstrating positive correlations between teachers' absence frequency and their intent to leave ($r = .91$, $p < .05$) and between teachers' absence frequency and students' absence frequency ($r = .36$, $p < .05$). We also found a negative correlation between students' absence frequency and their achievements ($r = -.86$, $p < .05$).

These results were also confirmed by SEM analysis. The SEM model with completely standardized path coefficients is presented in Figure 2. The model showed a perfect fit with the data, $X^2 = 2.878$, $p = .37$, root mean square error of approximation (RMSEA) = .05, normed fit index (NFI) = .95, comparative fit index (CFI) = .96. As seen in Figure 2, teachers' absence frequency correlated positively with their intent to leave ($r = .72$, $p < .01$), and students' achievements correlated negatively with their absenteeism ($r = -.62$, $p < .001$).

Table 2 presents the means, standard deviations, and *t* values comparing the two groups of schools (those working with the new team-work program versus those working with the routine program). The *t*-test analyses confirmed Hypothesis 2, indicating that the dimensions of team culture perceptions, organizational commitment, and school effectiveness were all significantly better ($p < .01$) in the schools that worked in teams according to the new work plan. Comparison of the two groups of schools revealed a relatively strong comprehensive profile [a high mean level of four team culture perceptions: Clan = 4.88

(*SD* = .24); Adhocracy = 4.66 (*SD* = .45); Hierarchy = 4.66 (*SD* = .44); Market = 4.76 (*SD* = .44)] among teachers in schools that focused on teamwork, whereas teachers in schools that worked according to their routine program revealed a relatively weak comprehensive profile, with one culture dominating [Clan = 4.14 (*SD* = .67)] in relation to the other mean values [Adhocracy = 3.49 (*SD* = .70); Hierarchy = 3.64 (*SD* = .80); and Market = 3.84 (*SD* = .72)].

Hypothesis 3 suggested that organizational commitment would serve as a mediator between team culture perceptions and the different dimensions of school effectiveness. The high intercorrelations for the different perceptions of team culture led us to aggregate the four different perceptions into one measure of culture in addition to separate analyses. The SEM analysis indicated positive significant relations between team culture perceptions and organizational commitment (= .88, p < .01). Significant positive relations emerged between affective commitment and students' achievements (= .15, p < .01), whereas significant negative relations emerged between affective commitment and teachers' absence frequency (= -.22, p < .01).

In addition, significant negative relations emerged between normative commitment and teachers' intent to leave (= -.21, p < .01). The direct relations between team culture perceptions and the different dimensions of school effectiveness were not significant in the presence of the organizational commitment dimensions. Thus, these results partially support Hypothesis 3, indicating that affective commitment mediated the relations of team culture perceptions with students' achievements and teachers' absence frequency, whereas normative commitment mediated the relations between school team culture perceptions and teachers' intent to leave.

As seen in Figure 2, we represented the teamwork-focused schools as 0 and the schools that worked routinely as 1. Thus, negative correlations between school type and selected variables would represent relations found significant in the teamwork-focused schools, whereas positive correlations would represent significant relations for the regular schools. Findings indicated that the teamwork-focused schools related to students' achievements (= -.72, p < .01), teachers' perceptions of team culture (= -.75, p < .01), and teachers' commitment (= -.16, p < .05), whereas schools that worked routinely related to students' absence frequency (=.83, p < .01) and teachers' intent to leave (= .87, p < .01).

Discussion

This study's main aim was to determine a model for describing the interrelations between teachers' team culture perceptions, their commit-

ment, and their school effectiveness. In addition, this study attempted to examine how perceptions of teamwork at schools affected school effectiveness as measured by different teacher and student dimensions.

Concerning teachers' perceptions, our findings indicated that schools tend to demonstrate different profiles of team culture. The present outcomes indicated that the teamwork-focused schools enhanced more factors (i.e., increasing student achievements, teachers' team culture perceptions and teachers' commitment) compared to the schools that worked according to the regular work plan. These findings seem to provide support for prior studies (e.g., Quinn & Spreitzer, 1991; Yeung et al., 1991), which found that a relatively strong comprehensive culture (which in this study characterized schools working according to the new teamwork plan) resulted in higher organizational effectiveness and positive perceptions and attitudes than a relatively weak comprehensive culture (which in this study characterized schools working routinely). Thus, the current study supports Quinn's (1988) suggestion that a balance of competing organizational values is important in achieving individual effectiveness.

The results regarding teachers' organizational commitment indicated that the dimension of affective commitment mediated the relations between team culture perceptions and factors of school effectiveness (students' achievements, teachers' voluntary absence) more than did normative commitment (teachers' intent to leave). These findings seem to corroborate previous research indicating that affective commitment is more dominant than normative commitment in determining school effectiveness. Indeed, when teachers identify with their schools, feel involved, and want to be at work (affective commitment), this may affect not only their own behaviours (e.g., lowering absenteeism) but also their students' outcomes (e.g., raising achievements). However, when teachers remain at work because they feel they ought to (normative commitment), they may reveal a reduction in their intent to leave because they will try to keep their positions.

The present study revealed interrelations not only among teacher effectiveness factors or among student effectiveness factors, but also between teacher and student factors. Thus, when considering both teachers and students, we found for, example, that teachers' voluntary absence correlated with students' voluntary absence, which may justify the research approach that considers both teachers and students in the same study. The low level of students' voluntary absence in relation to teachers' voluntary absence may be explained by the fact that this study deals with Israeli elementary school students (Grades 1-8), who experience considerable parental supervision and little school truancy.

In Israel, educational administrators emphasize the development of personal responsibility by individual teachers in their classes. Thus, Israeli teachers learn to develop their professional abilities independently, which may likely impair teachers' willingness for teamwork. At a time when schools are adopting new reforms, many studies have reached the conclusion that teamwork is necessary to ensure the achievement of school goals (Newmann et al., 2000; Somech & Drach-Zahavy, 2007). The present findings further highlighted the importance of developing "strong comprehensive team cultures" in schools, which may promote school effectiveness.

Implications of the Results

Theoretically, the present findings emphasized the importance of developing an integrative approach. This study presents a model that explains how team culture perceptions and organizational commitment may affect school effectiveness. Previous studies usually focused on only one single measure of school effectiveness at a time, whereas the present study offered an integrative multi-construct framework considering both teachers and students.

Practically, the study findings also hold important implications for organizational intervention. First, principals should promote high levels of team culture through workshops that focus on developing "strong comprehensive team culture" in order to increase school effectiveness. Second, principals should provide a structural framework for transforming the school into disciplinary teams that develop common knowledge and practices. Finally, principals should allocate time for teamwork, such as weekly scheduled team meetings.

Strengths, Limitations, and Future Study

This paper attempted to explain an integrative phenomenon by concurrently investigating multiple factors and constructs that the literature has typically examined separately, thus furnishing an innovative, multifaceted approach to school effectiveness. Methodologically, this study was based on teachers' self-reports as well as recorded data and designed a time lag between variables in the model, which may strengthen the accuracy and quality of the study.

Nonetheless, the current research design has limitations, and our findings should be interpreted with some caution. A basic argument in the study model is the direction of causality that emanates from organizational culture, which influences organizational commitment, which in turn affects school effectiveness. The causal flow in the literature is generally unidirectional (Koslowsky, 2009). However, investigators have argued that a causal effect in the opposite direction may also be

a reasonable expectation (Clegg, 1983). The present study's two-phase design at two different time points supports the causal model, which argues that work perceptions lead to behaviours and outcomes. However, future research should examine whether teachers' absence and intent to leave and students' achievements may affect teachers' commitment and their perceptions about team culture.

Although predictors such as team culture perceptions and organizational commitment seem to be most appropriate for teachers' or students' voluntary behaviours, it is often difficult to classify a particular incident as an example of voluntary or involuntary behaviour. In any case, the present study attempted to cover a large number of behaviours by postulating the existence of several types of antecedents for which one or a combination may be appropriate.

In conclusion, our findings call for further investigation into school effectiveness vis-à-vis team culture and organizational commitment. We recommend studying these factors via qualitative research (e.g., interview data) and objective direct observations of school teams' cultures in order to complement the quantitative questionnaires and record-based data.

Note

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Appendix
Table 1. Individual-level means, standard deviations, and correlations for study variables

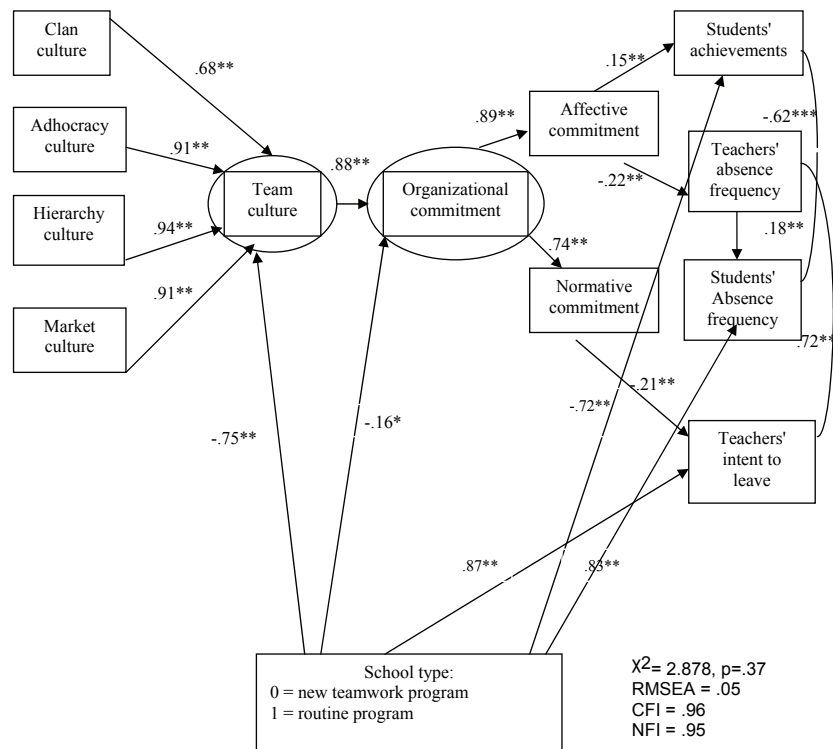|		Variables	M	SD	1	2	3	4	5	6	7	8	9	10
Culture	1	Clan	4.53	.61	(.81)	.64*	.59*	.59*	.52**	.45**	.62*	-.57*	-.60*	-.-63*
	2	Adhocracy	4.11	.82		(.88)	.86**	.84*	.67**	.63*	.46*	-.53**	-.64*	-.57*
	3	Hierarchy	4.17	.82			(.89)	.89*	.71*	.62*	.43*	-.46*	-.61**	-.52*
	4	Market	4.33	.75				(.90)	.66*	.57*	.40*	-.49*	-.57*	-.53*
Commitment	5	Affective	4.11	.76					(.90)	.71*	.26*	-.34	-.44**	-.40
	6	Normative	3.93	.90						(.87)	.33	-.30	-.43	-.36*
School effectiveness	7	Students' achievements	81.51	5.98								-.86*	-.78*	-.86*
	8	Students' absence frequency	2.38	. 53									.36*	.92*
	9	Teachers' absence frequency	3.15	.70										.91*
	10	Teachers' intent to leave (No. of transfer requests)	2.11	.76										

Note. N =375, *p<.05, ** p < .01.
Reliability coefficients (Alpha Cronbach) in parentheses.

Table 2. Schools that focused on teamwork versus schools that worked routinely

Variables		Teamwork program		Routine program		
		M	*SD*	*M*	*SD*	*t*
Team Culture perceptions	Clan	4.88	.24	4.14	.67	8.41**
	Adhocracy	4.66	.45	3.49	.70	11.56**
	Hierarchy	4.66	.44	3.64	.80	9.12**
	Market	4.76	.44	3.84	.72	8. 50**
Commi t-ment	Affective	4.43	.42	3.78	.88	5.34**
	Normative	4.30	.75	3.54	.91	5.43**
School effectiveness	Students' achievements [a]	85.68	2.98	76.88	4.96	12.64**
	Teachers' absence frequency	2.12	.54	4.29	.70	6.87**
	Students' absence frequency	1.81	.44	2.95	.39	8.38**
	No. of teachers per school intending to leave	1.91	.52	2.33	. 65	10.62**

[a] On a scale of 0-100
** $p < .01$

Figure 1. The theoretical model
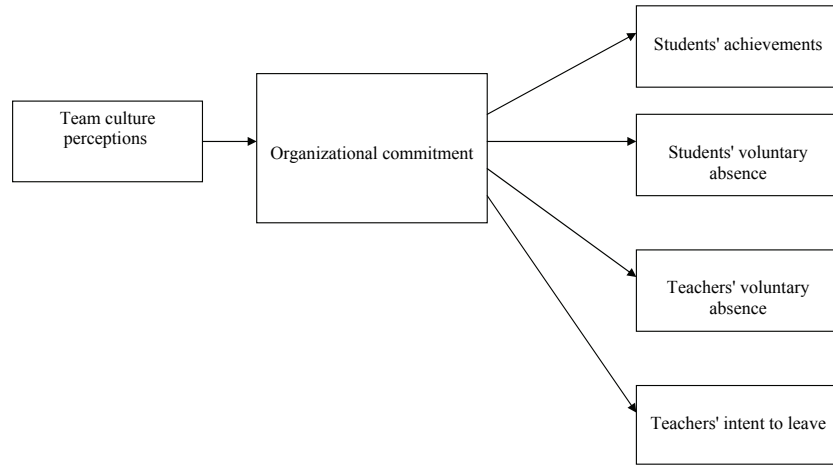
Figure 2. The mediating effect of organizational commitment between team culture perceptions and school effectiveness

$* p < .05, ** p < .01, *** p < .001.$