



School characteristics that make a difference for the achievement of all students

A 40-year odyssey

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Abstract

Purpose – The purpose of this paper is to trace a 40-year research journey to identify organizational properties that foster the achievement of all students, regardless of socio-economic status (SES).

Design/methodology/approach – The author describes a search for school properties that have an impact on the cognitive and social-emotional development of faculty and students, with special emphasis on academic achievement.

Findings – Three characteristics of schools were identified that make a positive difference for student achievement controlling for the SES: collective efficacy, collective trust in parents and students, and academic emphasis of the school. Further these three measures are elements of a latent construct, academic emphasis of school, which is a powerful predictor of student achievement regardless of SES.

Originality/value – The paper identifies school variables that are often as important, or more important, than SES in explaining academic achievement, and a new model is created to explain how academic optimism influences student achievement.

Keywords Schools, Organizational culture, Students, Trust, Educational development, Self development, Efficacy, Academic emphasis, Academic optimism, Academic achievement

Paper type General review

As a beginning professor at Oklahoma State University over four decades ago, I was intrigued by the notion that schools like people had their own “personalities” (Halpin, 1966). A few visits to a few schools will convince even the most casual observer that there are striking differences in the feel of schools. I found it natural to share my curiosity and excitement about school climate with my first doctoral student, Jim Appleberry. In fact, for most of my professional career, I have worked closely and systematically with my students to study schools. I am a firm believer in an agenda of cooperative and incremental research that builds knowledge and understanding. One of several consistent strands of my study over the past four decades has been the search for school climate variables that make a difference for teachers and students, including both cognitive and social-emotional outcomes[1].

Jim Appleberry, Jim Henderson, John Tarter, John Hannum, Dennis Sabo, Megan Tschannen-Moran, Roger Goddard, Page Smith, Michael DiPaola, Patrick Forsyth, Karen Beard, and Curt Adams are former students who have been instrumental in this research journey and are now professors themselves with their own cadres of student researchers.

Thanks to John Tarter and Anita Woolfolk Hoy who read earlier drafts of this analysis and made helpful suggestions. Some of this research was presented at the European Association for Research on Learning (EARL) at the annual meeting (August-September, 2011).



Organizational climate: openness and humanism

The general question of what organizational features make schools better places for teachers to teach and for students to learn has driven much of my research. We first raised that issue in the context of what kind of school climate promotes a humanistic pupil control perspective, a view that stresses the importance of the individuality of each student, student self-regulation, and the creation of an atmosphere to meet the wide range of student needs (Appleberry and Hoy, 1969). As expected, we found that an open school climate, one that focused on authentic interactions among members, did in fact facilitate a humanistic pupil control perspective. Further, humanistic schools had principals who led by positive example, were considerate, personal, avoided close supervision, were engaging, friendly, and had faculties with high morale (Hoy and Appleberry, 1970).

School climate and student affective outcomes

After three years as a professor at Oklahoma State, I moved to Rutgers University where I continued the quest to discover characteristics of schools that were important in improving the lives of both teachers and students. In particular, I remained interested in the notion of school climate—both the openness and humanism of climates—but I extended my study to the influence of climate on student attitudes and behavior. Were humanistic as well as open school climates related to student orientations? The results were not unexpected and provided a resounding yes: Openness of the school climate was negatively related to alienation of students (Hoy, 1972a; Rafalides and Hoy, 1971). In general, the more open the school climate, the less alienated were the students. Open schools were antidotes for student sense of powerlessness and normlessness.

Similarly, schools with humanistic pupil control orientations had less alienated students; that is, students suffered less from a sense of powerlessness, normlessness, and self-estrangement or isolation (Hoy, 1972a; Hartley and Hoy, 1972). In another study of school climate and students (Deibert and Hoy, 1977), as predicted we found that schools with a humanistic control perspective had students with higher levels of student self-actualization than custodial schools. The initial research on climate and its impact on students led to the conclusion that openness and humanism in school climate facilitated positive student outcomes; in particular, such schools were less alienating and produced more self-actualizing students.

Although I felt good about connecting school climate with positive student social-emotional outcomes, students and administrators in my graduate classes at Rutgers wanted more; they wanted to know if openness and humanism were related to school achievement. After all, Coleman *et al.* (1966, p. 297) had concluded in their landmark study of schools that “only a small part of (student achievement) is the result of school factors, in contrast to family background differences between communities”. Further, other researchers confirmed the strong link between socioeconomic factors and academic achievement (Jencks *et al.*, 1972), and now virtually everyone agrees that SES is a strong predictor of student achievement.

For several years, we did analyses to see if openness and humanism in school climate were related to student achievement, controlling for the effects of socioeconomic status (SES). Once SES was entered into the regression equations, however, there were no significant relations between school climate variables and

student achievement. Parenthetically, none of these analyses was published; journals want significant results not insignificant ones. Coleman's findings along with our own studies of student achievement were discouraging. Socioeconomic status accounted for most of the variance in school achievement, and none of the climate variables that we examined made a significant contribution to student achievement once SES was entered into our regression equations. Moreover, SES is not readily amenable to change. What we needed to discover were organizational variables that were at least as potent as SES in explaining student achievement. As it turned out, that task was a formidable one.

A detour

For some time after the Coleman *et al.*'s (1966) study, and frustrated by our own inability to connect school properties with student achievement, our research agenda shifted from investigation of student outcomes to study of bureaucratic structure of schools and its impact on teachers (Hoy *et al.*, 1983; Isherwood and Hoy, 1972, 1973; Sousa and Hoy, 1981), the bureaucratic socialization of new teachers (Kuhlman and Hoy, 1974; Hoy and Rees, 1977), developing teacher loyalty to principals (Hoy and Rees, 1974; Hoy *et al.*, 1977; Hoy *et al.*, 1978), patterns of principal succession and change (Hoy and Aho, 1973; Ganz and Hoy, 1977), and principal leadership and teacher interactions (Kunz and Hoy, 1976; Hoy, 1972b; Hoy and Brown, 1988; Hoy *et al.*, 1978; Williams and Hoy, 1971). For us, after an early emphasis on the study of school climate and student outcomes, most of the last half of the seventies was marked by the study of schools and principal-teacher interactions with less attention to the relations between school properties and student outcomes.

One of the first researchers to challenge Coleman's contention that schools had only a negligible effect on student achievement was Edmonds (1979), who in a series of case studies developed a list of characteristics of effective schools: strong principal leadership, high expectations for student achievement, an emphasis on basic skills, an orderly environment, and frequent, systematic teacher evaluations. Edmonds suggested good schools were a product of good principals. As enticing as that conclusion may be, it is quite another matter to demonstrate the principal's direct influence on student achievement. Nonetheless, Edmonds's (1979) work was a positive force. Many researchers turned once again to the problem of identifying school conditions that enhanced student achievement.

The emergence and study of organizational trust

In the early 1980s, our work shifted to the investigation of school trust, which we viewed as critical to successful interpersonal relations, leadership, teamwork, and effective school operation. Notwithstanding the general popularity of trust as topic for commentary and admonition, there was remarkably little systematic study of trust in schools; in fact, it was virtually nonexistent. Bill Kupersmith and I set out to redress this void.

We began by conceptualizing and developing a measure of collective trust of the faculty (Hoy and Kupersmith, 1984, 1985). Faculty trust was conceived as the collective belief that the word and promise of another individual or group could be relied upon, and further, that the trusted party would act in the best interests of the faculty. We identified three referents of trust:

- (1) trust in the principal;
- (2) trust in colleagues; and
- (3) trust in the organization.

Each of these varieties of trust suggested the trusted party was reliable and could be counted to act in the best interest of the faculty as a whole. Not surprisingly, all three variants of trust were moderately related to each other.

Jim Henderson joined us in our search for variables related to trust. Jim was interested in the authenticity of the principal's behavior (Henderson and Hoy, 1983; Hoy and Henderson, 1983; Hoy and Kupersmith, 1984). Authentic principals willingly admitted their own mistakes, did not manipulate teachers, and did not hide behind a cloak of authority. We found that principals who were viewed as authentic by their faculties commanded significantly more trust. Further, principal authenticity was strongly correlated with faculty trust in the principal, moderately correlated with faculty trust in the organization, and weakly but significantly related to faculty trust in colleagues.

Notwithstanding the authenticity-trust relationships, neither principal authenticity nor any of the variants of faculty trust explained student achievement after controlling for SES. Although we were gratified that collective trust could be measured reliably in schools and that principal authenticity was related to trust, we were once again disappointed that we could link neither authenticity nor any variant of trust with student achievement. Admittedly, we were involved in many other research initiatives along the way. Suffice it to say that every time we had an opportunity, we tested school properties that might explain school achievement but with no success.

Another view of organizational climate: school health

Why are openness in school climate, principal authenticity, and collective trust in the principal, in colleagues, and in the organization unrelated to student achievement when SES is controlled? One possible reason is that all are one step removed from students. Openness and authenticity refer to the interactions of the principal with teachers and interactions of teachers with each other, and collective trust focused on the organization, principal, and teachers, not students. Thus, we decided to use a different, broader perspective to examine organizational climate, one that included faculty orientation toward students.

Organizational health: a new climate perspective

Based on the theoretical foundations of Matthew Miles (1969) and Talcott Parsons *et al.* (1953), we developed an organizational climate perspective using a health metaphor (Hoy and Feldman, 1987; Hoy *et al.*, 1991; Tarter and Hoy, 1988). Our health framework consisted of defining and measuring critical school variables at three different levels in the organization, including the teacher-student level[2].

At the institutional level, institutional integrity reflected the school's ability to cope with its environment in positive ways. The managerial level was framed in terms of the principal's leadership: initiating structure to solve problems, consideration to assist and support teachers, influence to help and protect teachers, and resource support to secure the materials needed for teachers to succeed. Finally, at the technical level, health was tapped in terms of the esprit de corps of the faculty, morale, and academic

emphasis, which is the quest for academic excellence. These seven dimensions of school organization combined into a single second-order factor that we called organizational health (Hoy and Feldman, 1987; Hoy *et al.*, 1991). Like school openness, the school health index was positively and significantly related to collective trust, but again neither collective trust nor school health was related to student achievement once SES was controlled (Hoy *et al.*, 1991; Hoy *et al.*, 1990; Tarter and Hoy, 1988; Tarter *et al.*, 1989).

A break through: academic emphasis

Although neither health nor the openness of school climate was related to student achievement, John Tarter and I discovered one dimension of school health was positively and consistently correlated with school achievement. Not surprisingly, the aspect of health that was the one most closely related to students, academic emphasis of the school, was positively related to school achievement even after controlling for SES (Hoy *et al.*, 1990; Hoy *et al.*, 1991).

Academic emphasis is the degree to which a school is driven for academic excellence: high achievable goals are stressed; the learning environment is serious; teachers believe in the ability of all students to succeed; and teachers and students alike respect high academic achievers. This was the first of our studies to demonstrate the link between academic emphasis of a school and student achievement. After nearly two decades of study, we finally identified one school characteristic that explained achievement (math and reading) in high schools even after controlling for SES. About the same time and independent of our research, Lee and Bryk (1989) also confirmed the importance of academic emphasis in facilitating school achievement.

Would the academic emphasis-school achievement connection hold up in other studies? John Hannum, Dennis Sabo and I turned to the study of middle schools and replicated the finding (Hoy and Hannum, 1997; Hoy *et al.*, 1998; Hoy and Sabo, 1998), and later we (Alig-Mielcarek and Hoy, 2005) also confirmed the academic emphasis-student achievement relationship in elementary schools[3]. In academic emphasis we had found an important school property that consistently fostered student achievement regardless of school level and regardless of SES; it was the first such property we discovered, but it was also the harbinger of others to come.

Collective trust of schools revisited, redefined, and refined

There was a brief hiatus in our study of collective trust in schools as I moved from Rutgers University to The Ohio State University, but in a few years my first Ohio State PhD student, Megan Tschannen-Moran, became intrigued with collective trust and we set out to study it in schools. Fortunately, by the early 1990s the study of organizational trust by social scientists in multiple disciplines had become popular. The Stanford symposium papers on trust in organizations published as *Trust in Organizations: Frontiers of Theory and Research* (Kramer and Tyler, 1996) signaled the importance of collective trust for all organizations. Given our past inability to link school trust and achievement as well as the ferment in the field, we decided to refine and expand our trust measure to include faculty trust in students and in parents.

The first step was a comprehensive review of the theory and literature on organizational trust (Tschannen-Moran and Hoy, 2000), which by the 1990s had become a crucible of thought and ideas. We discovered that a consensus concerning the

nature of organizational trust was emerging; in fact, we built our definition of trust on that agreement. First, vulnerability was a common theme that ran through most analyses of trust regardless of the kind of organization. Those who trust inevitably make themselves vulnerable to others and assume some risk. We also gleaned from the interdisciplinary literature five general sources or facets of trust: benevolence, reliability, competence, honesty, and openness are common elements that are found in most discussions of trust (Hoy and Tschannen-Moran, 1999; Tschannen-Moran, 2001; Tschannen-Moran and Hoy, 2000). Let's examine each of these facets.

- (1) *Benevolence*. The most common condition of trust is a sense of benevolence—the confidence that the trusted group or person will act in ways not to harm the other party. In other words, trust involves the “accepted vulnerability to another’s possible but not expected ill will” (Baier, 1986, p. 236).
- (2) *Reliability*. At its most fundamental level, reliability is the combination of predictability and benevolence. When something is required of another party, the person or group needs to rely upon that party to act in positive ways; that is, reliability is the extent to which it is believed that predictable outcomes will be forthcoming and positive.
- (3) *Competence*. There are circumstances when good intentions are not enough. When there is dependence on another person or group and skill is required, there is a tendency to trust only those with skill and competence; thus, competence is often key in trust relations.
- (4) *Honesty*. Most scholars view honesty as a fundamental feature of trust; in fact, honesty is usually what we think of when we consider trust. Honesty speaks to honor, truthfulness, and authenticity. Honesty cements trust.
- (5) *Openness*. Transparency and openness are also part of trust relations. Openness is the degree to which relevant information is shared and actions and plans are transparent. Openness promotes trust whereas secrecy breeds distrust.

In brief, our review of the extant literature on trust led to the following definition (Forsyth *et al.*, 2011; Tschannen-Moran and Hoy, 1998, 2000):

Collective trust is a state in which groups are willing to make themselves vulnerable to others and take risks with full confidence that others will respond in positive ways, that is, with benevolence, reliability, competence, honesty, and openness.

A new and refined measure of collective trust

The next step in the investigation of collective trust was to identify the referents of trust and develop reliable and valid measures. Recall that our earlier research on collective trust in schools focused on faculty trust in the organization, in the principal, and in colleagues. We eventually theorized, however, that these referents of trust were too far removed from students to predict achievement; hence, this time around we added faculty trust in students and faculty trust in parents to our conceptual scheme. We did not measure faculty trust in the organization because our analyses indicated that most of the variance of trust in the organization was captured by trust in the principal. We performed a series of factor-analytic studies of elementary, middle, and high schools (Hoy and Tschannen-Moran, 1999; Hoy and Tschannen-Moran, 2003;

Smith *et al.*, 2001) that demonstrated the utility of our conceptual framework for studying collective trust. These measurement studies yielded the following conclusions:

- The five facets of trust (benevolence, reliability, competence, honesty, and openness) formed an integrated, unidimensional measure of collective trust regardless of school level.
- The validity and reliability of our measures were strongly supported.
- Despite the fact that we sought to measure four referents of trust, there were only three: collective trust in the principal, in colleagues, and in clients (students and parents).
- Collective faculty trust in students and in parents formed one referent of trust, not two; when the faculty trusts students, it also trusts parents and vice versa. Collective trust in students and parents represents a single dimension of trust, a finding replicated by Bryk and Schneider (2002) in their research on trust. They argue that in all probability teacher-student trust operates primarily through teacher-parent trust. Moreover, both Bryk and Schneider (2002) and Tschannen-Moran (2001) demonstrated a strong positive link between collective trust and teacher-parent cooperation, a point to which we will return later.

Collective faculty trust in students and parents: the missing link to student achievement

Armed with a new aspect of collective trust, we once again examined the relationship between collective trust and student achievement, and unlike the other referents of trust, this one was related to student achievement even after controlling for SES; collective faculty trust in students and parents was substantially and significantly related to student achievement in elementary schools (Goddard *et al.*, 2001). Upon reflection, our failure to link trust and achievement was simply that we were using the wrong referents of collective trust. Collective trust in the organization, faculty trust in the principal, and faculty trust in colleagues were not related to achievement after controlling for SES; however, collective trust in students and parents did explain a significant amount of student achievement even after controlling for SES.

Our subsequent studies supported the collective trust-student achievement relation. Goddard *et al.* (2009) in a representative sample of elementary schools in Michigan used path analysis to examine the direct and indirect effects of faculty trust in clients (students and parents). They found that faculty trust in clients was a strong, significant, positive predictor of both mathematics and reading achievement even after controlling for SES and proportion of minority students, neither of which was a direct predictor of achievement. Similarly, Tarter and Hoy (2004) in a sample of Ohio elementary schools confirmed that faculty trust in students and parents was related to student achievement regardless of SES. In one study we not only demonstrated faculty trust in clients (students and parents) was related to school achievement, but it also had a stronger influence on achievement than did SES (Hoy, 2002).

Tschannen-Moran (2004) did a comparative study of faculty trust in the principal and faculty trust in clients, and found that faculty trust in clients, and not faculty trust in the principal, was strongly related to school achievement on the Virginia Standards

of Learning tests. Moreover, we found that collective faculty trust promoted a sense of organizational justice and fairness within the school (Hoy and Tarter, 2004). Finally, another group of researchers at the University of Chicago (Bryk and Schneider, 2002) performed a longitudinal study of 12 Chicago elementary schools and found that trust among teachers, parents, and students produced schools with strong gains in student learning; their results were remarkably consistent with ours[4].

In sum, the evidence is quite strong that collective faculty trust in clients (students and parents) is related to student achievement even after controlling for SES and other demographic variables. Thus far on our journey, we had identified two characteristics of schools that made a difference in achievement for all students regardless of SES – academic emphasis and collective trust in clients.

Collective efficacy and student achievement

Social cognitive theory (Bandura, 1986, 1997) is a general framework for understanding motivation and human learning. Self-efficacy, an essential element of the theory, is a person's belief about his or her capacity to organize and execute actions required to produce a given level of attainment (Bandura, 1997). Efficacy beliefs are basic mechanisms in human agency, which is the intentional pursuit of a course of action. Without a positive sense of efficacy, individuals are hesitant to initiate action; in fact, a sense of self-efficacy affects choices and plans for the future.

Research on the self-efficacy beliefs of students (Pajares, 1994, 1997) as well as self-efficacy of teachers (Tschannen-Moran *et al.*, 1998) has been linked to student achievement. Further, Bandura (1993) provided empirical evidence that schools have a sense of collective efficacy, which is positively related to student achievement; in fact, he concluded that the relationship between collective efficacy and achievement was stronger than the relationship between SES and student achievement, which was a finding that got our attention. Could collective efficacy of a school be another school characteristic that facilitated student achievement regardless of SES?

Roger Goddard and I were intrigued with the strong possibility that collective efficacy was indeed an important feature of the school, one that nurtured academic achievement. In the school context, perceived collective efficacy represents collective judgments about the capability of the school as a whole. Teachers have efficacy beliefs not only about themselves but also about the efficacy of the entire faculty. The latter is what we call collective efficacy; that is, perceived collective efficacy is the judgment of the teachers that the faculty as a whole can organize and execute the actions required to have positive effects on student achievement (Goddard *et al.*, 2000).

We set out to develop a measure of collective efficacy of schools and to test the hypothesis that perceived collective efficacy would enhance student achievement in mathematics and reading. We were successful in field and pilot studies in developing a collective efficacy scale, which in subsequent research proved reliable and valid (Goddard, 2001; Goddard, 2002; Goddard *et al.*, 2000). Moreover, after controlling for SES and using hierarchical linear modeling, we found that collective efficacy was significantly related to student achievement in urban elementary schools (Goddard *et al.*, 2000). Similarly, using structural equation modeling, we found in other diverse samples of elementary schools that collective efficacy was related to student achievement after controlling for SES (Cybulski *et al.*, 2005; Tarter and Hoy, 2004).

Building on our original study of collective efficacy and achievement, we tested the relationship in a comprehensive set of secondary schools and again found a strong relation; collective efficacy was the key variable explaining student achievement (Hoy *et al.*, 2002). Collective efficacy was more important than either academic emphasis or SES. We found that collective efficacy was especially potent when academic emphasis was high. The findings led us to theorize that academic emphasis works through collective efficacy; when collective efficacy is strong, academic emphasis directs teachers' behaviors, helps them persist, and reinforces social norms of collective efficacy (Hoy *et al.*, 2006b).

Finally, in a study of collective efficacy and achievement (Goddard *et al.*, 2004), we developed and tested a comprehensive model of student achievement. Using structural equation modeling, we found that collective efficacy explained school achievement in reading, writing, and social studies regardless of minority student enrollment, urbanicity, SES, school size, and earlier achievement. This study offers the strongest support for the importance of a culture of efficacy in facilitating student achievement.

In sum, as with academic emphasis and collective trust, collective efficacy was an important school property that enabled student performance to flourish. Further, the results hold for both elementary and secondary schools. In some studies, collective efficacy is more important than SES in influencing student achievement. The finding is especially significant because collective efficacy is more amenable to change than the social backgrounds of students. After about 30 years, we were able to identify three school variables that make a difference in achievement regardless of SES—academic emphasis, collective faculty trust, and collective efficacy[5].

Academic optimism: a new construct

Now that we had three school variables that made significant contributions to school achievement even after controlling for SES, one might think that we were explaining an increasingly larger amount of achievement variance by using all three of these variables in our regression models. Unfortunately, that was not the case. It happens that academic emphasis, collective trust, and collective efficacy are all highly correlated with each other such that problems of multicollinearity occur when one tries to use the variables together. Two possible solutions to such a problem are to drop out one or more of the highly correlated variables or to find the underlying property of the variables.

We decided to use the latter strategy, that is, to find the underlying property of the three constructs. At this stage of the journey, my wife Anita joined in the deliberations as we grappled with just what was the fundamental abstraction that was common to these three school properties. Over several months we talked on and off about the meaning of the extremely high correlations among the academic emphasis, trust, and efficacy constructs. We were both struck by the optimistic nature of trust and efficacy. Trust requires a leap of faith in others and efficacy is embedded in a positive outlook as well; in fact, our discussions led us to Seligman's (1991, 1998) work on learned optimism and the general notions of hope and optimism, which are central in perspectives on positive psychology. As we read in the area of positive psychology, there seemed little doubt of the optimistic view of both trust and efficacy, but where did academic emphasis come in to the picture? Academic emphasis gave collective optimism in the school a focus on academics; hence, the name academic optimism. The

process was interesting theorizing, but just because you name something does not mean it exists. We needed to test our speculations empirically and that is precisely what we did next.

First we tested and confirmed the notion that academic optimism was a second-order latent construct composed of academic emphasis, collective trust, and collective efficacy in a large sample of elementary schools using structural equation modeling (Hoy and Tarter, 2006a). Then we explicated the concept further and confirmed with a sample of secondary schools once again that academic optimism was a latent construct (Hoy *et al.*, 2006b). These two studies provided the details of our thinking and reasoning that led to the discovery and naming of academic optimism, which is a general, collective property of schools. We outline here the main points of the argument, but refer the interested reader to the original articles (Hoy and Tarter, 2006a, 2006b).

Academic emphasis, trust, and efficacy are collective variables of the school; these perceived characteristics are emergent group-level properties. We theorized that a strong sense of collective efficacy in a school creates a potent set of norms and behavioral expectations that reinforce self-efficacy beliefs of teachers. The same process works for academic emphasis and collective faculty trust. For example, when the faculty has strong norms that support teachers trusting and working with parents, the faculty will strive for cooperative collaboration, which reinforces individual teacher beliefs to trust. Clearly these three collective properties of schools have much in common.

We argued that optimism was the appropriate general construct that unites academic emphasis, trust, and efficacy because each implies a sense of hope and the possible. Collective efficacy is the belief that the faculty can make a positive difference in student achievement; the faculty believes in itself. Faculty trust in students and parents is the belief that teachers, parents, and students can cooperate to improve learning; the faculty believes in its students. Academic emphasis is the enacted behavior motivated by trust and efficacy beliefs; the focus is on academic success. Hence, a school with academic optimism has a faculty that collectively believes it can make a difference, all students can learn, and high academic performance can be achieved.

Academic optimism is more than a cognitive goal or expectancy based on knowledge or thinking. Our conception includes cognitive, affective, and behavior elements. Collective efficacy is a group belief or expectation; it is cognitive. Collective faculty trust is an affective response, and academic emphasis is the push for particular behaviors. Further, we postulate a reciprocal causality among these elements, that is, a triadic set of interactions with the components functionally dependent on each other. Collective trust in students and parents encourages a sense of collective efficacy, which reinforces and enhances trust. Similarly, when teachers trust parents, the faculty can insist on higher academic standards without fear of being undermined; and high academic standards reinforce collective trust. Finally, collective efficacy has a positive influence on achievement and academics, and such academic emphasis reinforces the development of collective efficacy. In sum, the elements of academic optimism have transactional relations with each other as they interact to form a school culture of academic optimism (see Figure 1).

Academic optimism and student achievement

It should come as no surprise that academic optimism predicts student achievement regardless of SES, previous academic success, and other demographic characteristics.

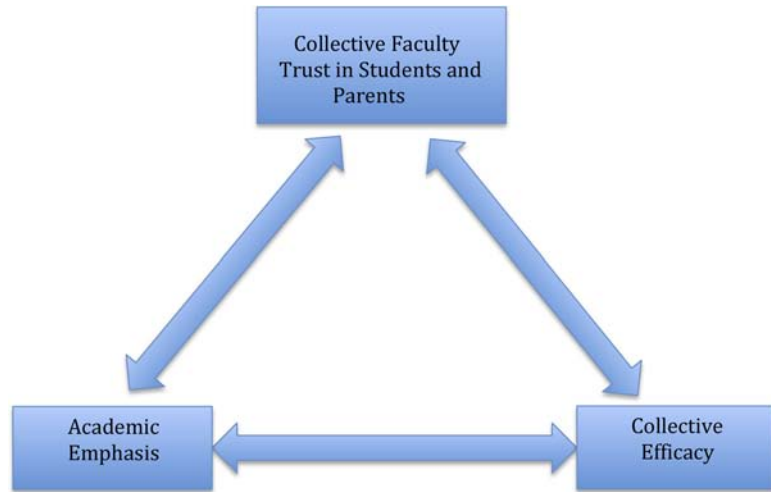


Figure 1.
Triadic reciprocal
relations of elements of
academic optimism

The strongest single piece of evidence for the optimism-achievement relation is our study of high schools (Hoy *et al.*, 2006b). This study had more controls than any of the others; we controlled for SES, previous achievement, and other demographic variables, had a large diverse sample of secondary schools, had multiple measures of achievement, and used structural equation modeling to test the theory. Further, using hierarchical linear modeling (HLM), intraclass correlational analysis demonstrated that academic optimism was indeed a collective property rather than simply an aggregate of individual perceptions.

Since this initial study, a number of other studies have confirmed the strong relation between academic optimism and achievement. Page Smith at the University of Texas in San Antonio and I (Smith and Hoy, 2007) supported the finding in a sample of elementary schools in Texas. Michael DiPaola and his students at William and Mary (DiPaola and Wagner, 2012; Kirby and DiPaola, 2009; Wagner and DiPaola, 2009) did two other studies that also supported the optimism-achievement relation in Virginia schools, as well as another study (Kirby and DiPaola, 2011) that verified a positive link between academic optimism and community engagement.

In still another study at Ohio State, Leigh McGuigan and I (McGuigan and Hoy, 2006) extended the work by adding enabling structure (Hoy, 2003; Sinden *et al.*, 2004) to the model as a predictor of academic optimism, which in turn predicted achievement. The results of these studies are convincing; they offer strong evidence of the optimism-achievement relation for all students regardless of SES and previous achievement. The results hold for elementary, middle, as well as high schools. In the end, it seems clear that efficacy, trust, and academic emphasis produce a powerful force that engenders motivation, creates optimism, and channels behavior toward the accomplishment of high academic goals (Hoy *et al.*, 2006b).

The dynamics of academic optimism: toward a theory of student achievement

What are the social and organizational conditions that promote learning? Why and how does a culture of academic optimism promote achievement? These are questions about

the dynamics of the optimism-achievement relation, ones with which we are currently wrestling to get a clearer understanding. Fortunately, Patrick Forsyth at the University of Oklahoma and his student and colleague, Curt Adams, were influenced by our work on faculty trust and joined the endeavor; whereas our studies of collective trust were on faculty trust, they extended the notion of collective trust to students and parents and their research strongly supported and extended our own (Forsyth *et al.*, 2011).

At the same time we were doing trust studies at Ohio State, a team of University of Chicago researchers was independently studying the public schools of Chicago (Bryk and Schneider, 2002). Although the University of Chicago researchers did not start out to study trust, it became clear that trust was pivotal in improvement in math and reading performance. They report that, “Schools reporting strong positive trust levels in 1991 were three times more likely to be categorized eventually as improving in mathematics and reading than those with very weak trust reports” (Bryk and Schneider, 2002, p. 111). Moreover, the effects of trust persisted, even after controlling for teacher background, student demographics, and other school contextual factors.

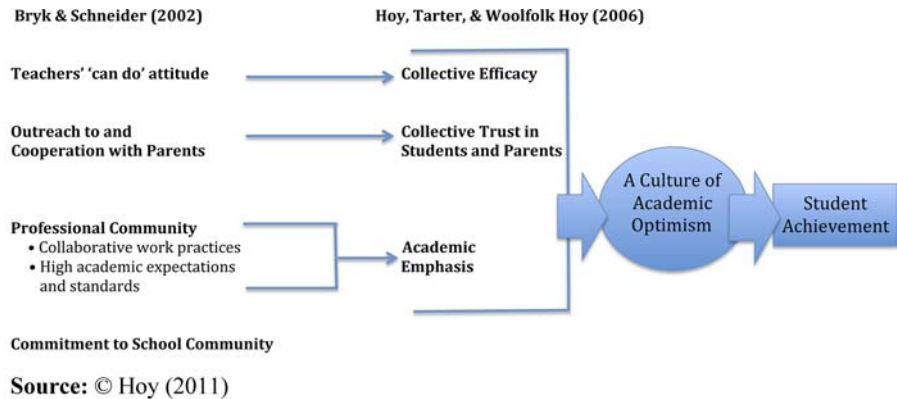
School conditions that promote achievement. Bryk and Schneider (2002) described a kind of trust they labeled relational trust, defined as a particular system of social exchanges between school participants (teachers and students, teachers and other teachers, teachers and the principal, school professionals and parents) in which the interacting parties synchronize their expectations and obligations and work to achieve them. Social exchanges that manifest relational trust are characterized by reciprocated respect, competence in executing the expected behaviors to meet obligations, mutual caring and regard, and integrity. Thus, relational trust is founded both on beliefs about the intentions and values of others and interpretations of observed behaviors.

What we found especially intriguing about the Bryk and Schneider (2002) research were not only their findings on trust, but also their conclusion that trust had an indirect influence on achievement. They suggested that trust fostered a set of organizational conditions, which in turn directly promoted higher student achievement. In particular they concluded that the following organizational conditions fostered high student achievement:

- a positive orientation to innovation—a teacher “can do” attitude and internalized responsibility;
- outreach to parents and cooperation with parents;
- professional community—collaborative work practices and high academic expectations and standards; and
- commitment to school community.

What is striking about Bryk and Schneider’s school conditions that promote learning is that in large part they are remarkably similar to the elements of our latent construct of academic optimism. Notice how the organizational conditions identified by Bryk and Schneider map the elements that compose academic optimism. The “can do attitude” of the group is defined by collective efficacy. The outreach to and cooperation with parents is encompassed by collective trust in parents and students. Professional community in terms of collaborative work practices, and high expectations and academic standards are incorporated into a climate of academic emphasis (See Figure 2).

Figure 2.
School conditions that
promote student
achievement



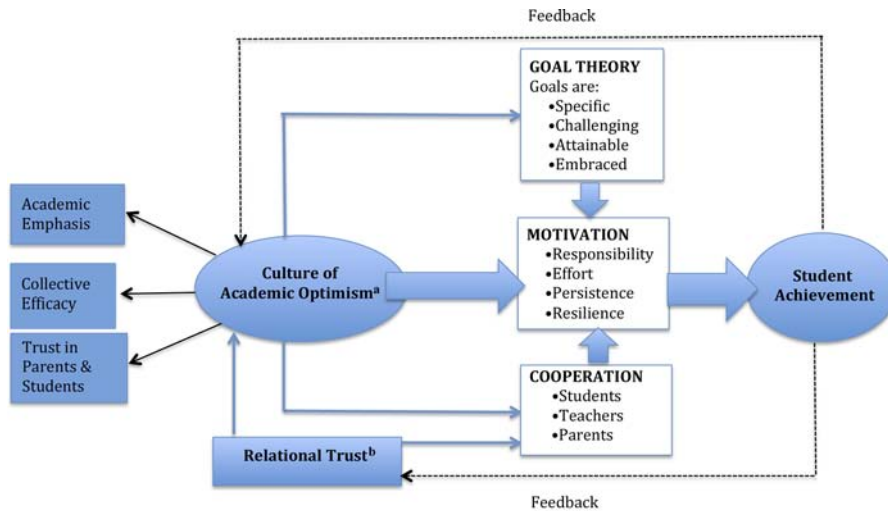
School properties, goals, and cooperation. To review and elaborate further, a strong culture of academic optimism is composed of three elements: collective-faculty trust in students and parents, collective efficacy, and the enactment of academic emphasis. A culture of academic optimism leads teachers and students to set and embrace specific, challenging goals that are attainable, which in turn enhances student motivation. Second, academic optimism and relational trust (working through academic optimism) foster a learning environment in which students and teachers accept responsibility for learning, are motivated to exert strong effort, persist in difficult tasks, and are resilient in the face of problems and failures. Third, academic optimism encourages cooperation among students, teachers, and parents in matters of student learning, which enhances student motivation. Moreover, relational trust between parents and teachers enhances and supports academic optimism as well as promotes a spirit of this cooperation. Both challenging, attainable goals and cooperation among students, teachers, and parents lead to strong motivation, which in turn leads to high levels of achievement, which in turn reinforces both relational trust and academic optimism. These interrelationships producing student achievement are summarized and illustrated in Figure 3.

The utility of academic optimism

Some may question the utility of our conception of academic optimism. What does it bring to our understanding that the individual elements of collective trust, collective efficacy, and academic emphasis by themselves don't already bring? There are several important points to be made in this regard.

First, in academic optimism we have a synthesizing concept that brings together the school conditions that have been found to improve student learning in two separate streams of research—in our own studies of school achievement and in those of Bryk and his colleagues at the University of Chicago (Bryk and Schneider, 2002). Moreover, we have used the findings in both streams of research to map a theory of the dynamics of how school conditions promote student achievement, which has both research and practical implications for improving schools. To be sure our model and explanation are only a beginning and not an end, but the theory does point the way for future research.

Further, in the latent construct of academic optimism we have a practical roadmap to guide school and student improvement. The concept provides at least three separate, but related paths to enhance student learning: Promote collective efficacy, create



Notes: ^aHoy *et al.* (2006); ^bBryk and Schneider (2002)
Source: © Hoy (2010)

Figure 3.
A model of the dynamics
of student achievement

collective trust, and strengthen academic emphasis. For example, experiencing achievement, modeling success, and persuading teachers to believe in themselves and their capabilities is a reasonable way to promote collective efficacy (Bandura, 1997; Goddard *et al.*, 2004). Faculty trust in students and parents can be created by useful interchanges and cooperative projects, both formal and informal, between parents and teachers (Hoy and Tarter, 2006a; Forsyth *et al.*, 2011). Academic emphasis can be strengthened by recognizing academic achievements, using formative assessments to target and improve instruction, and communicating high, achievable expectations to students and parents. The principal must be the intellectual leader of the school and forge a climate in which academic success is a dominant goal. Schools must celebrate the intellectual and academic successes of teachers and students.

A caveat, however, is in order. Any program or intervention to improve one of the elements of academic optimism must be supportive of the other two elements. For example, some strategies for strengthening academic emphasis, such as more competitive grading or higher standards, could undermine trust among teachers, students, and parents. Don't do it. Change in one element at the expense of another is counterproductive. Thus, administrators have three criteria to use as they plan improvement, and regardless of the change, none of the criteria must suffer.

Finally, at a theoretical level, the notion of optimism is a powerful force for improvement. Seligman (1998) was the first to challenge the traditional view of achievement and success as a function of talent and motivation. Seligman offers evidence for a third basic factor in success—optimism. He argues convincingly that optimism matters as much as talent or motivation in success; learned optimism moves individuals over the wall of learned pessimism. Pessimism is a major inhibitor of success. As we have explained elsewhere (Hoy *et al.*, 2006b), pessimism at both the individual and organizational level leads to a sense of hopelessness and futility. Pessimism in schools promotes a tired resignation, "These kids can't learn. There is

nothing we can do about it, so why worry?" Unfortunately, this view is crushing and self-perpetuating. Pessimism also breeds fear and a focus on avoiding mistakes, which stunts courageous and energetic innovation and persistence. "Academic optimism, in stark contrast, views teachers as capable, students as willing, parents as supportive, and the task as achievable" (Hoy and Tarter, 2006a, p. 40). Thus, the significance of a culture of academic optimism is salient in teacher and student success.

Future directions

The theoretical framework that we offer to explain the dynamics of student achievement in this analysis is a tentative one, which we expect to refine and expand. Our quest for school factors that promote achievement for all students has been successful, but the journey continues. Undoubtedly, there are other school properties that facilitate student learning and achievement.

We persist in the search. DiPaola, Tarter, and I (DiPaola and Hoy, 2005b; Tarter and Cooper, 2011) have begun to explore the influence of organizational citizenship on student achievement controlling for SES and the results have been encouraging, but more replication is needed. Organizational citizenship is a constellation of school behaviors that includes helping colleagues, conscientiousness, civic virtue, courtesy, and sportsmanship, all of which occur freely and voluntarily (DiPaola and Hoy, 2005a, 2005b; DiPaola and Tschannen-Moran, 2001; DiPaola and Neves, 2009; Organ, 1988, 1997).

I am sure others will find additional school properties that influence achievement, but I predict that such variables will be closely related to the organizational conditions that have already been specified—collective efficacy, collective responsibility, collective and relational trust, professional community, school collaboration with parents, academic emphasis or press, and optimism. For example, Heck's (2010) research underscores the importance of the organizational variables of instructional capacity, academic capacity, and teacher stability in influencing student achievement by moderating student-learning conditions in the classroom.

In my own research, I have been struck by the importance of optimism and we have proposed an agenda of research that embraces positive psychology as a framework for studying organizational structures and processes (Hoy and Tarter, 2011). We also are targeting individual properties of teachers that enhance teaching and learning. It probably is no surprise that we are examining academic optimism at the teacher as well as the organizational level. For example, Karen Beard and I have developed a valid and reliable measure of individual academic optimism for elementary teachers (Beard *et al.*, 2010; Woolfolk Hoy *et al.*, 2008), which is positively related to teacher flow in the classroom (Beard and Hoy, 2010). With two current PhD students, I have developed a similar measure of academic optimism at the secondary school level (Fahy *et al.*, 2010), and Curt Adams and Patrick Forsyth (2011) have successfully extended the concept of academic optimism to students. Hsin-Chieh Wu, my current graduate student, is doing a cross-cultural study in Taiwan to replicate the academic optimism-achievement connection in Chinese schools. The key studies performed by my students and me in our search for school factors that facilitate success for all students are summarized in Table I.

This is an exciting time to be doing research on schools. Advances in statistics, particularly structural equation modeling (SEM) and hierarchical linear modeling

Study	Variables and relationships
Appleberry and Hoy (1969)	Openness of climate and humanistic pupil control
Hoy and Appleberry (1970)	Characteristics of open and closed schools
Rafalides and Hoy (1971)	Custodial control and student alienation
Hartley and Hoy (1972)	Openness of school climate and student alienation
Hoy (1972b)	School climate and student alienation
Deibert and Hoy (1977)	Humanistic climate and student self-actualization
Hoy and Kupersmith (1984)	Principal authenticity and faculty trust
Hoy and Kupersmith (1985)	Defining and measuring faculty trust
Hoy and Feldman (1987)	Dimensions of school health
Tarter and Hoy (1988)	Dimensions of school health and faculty trust
Tarter <i>et al.</i> (1989)	School characteristics and faculty trust
Hoy <i>et al.</i> (1990)	School characteristics and effectiveness
Hoy <i>et al.</i> (1991)	School health, school climate, and effectiveness
Hoy and Hannum (1997)	Aspects of school health and student achievement
Hoy and Sabo (1998)	Academic emphasis and school achievement
Alig-Mielcarek and Hoy (2005)	Academic emphasis and school achievement
Tschannen-Moran and Hoy (1998)	Development of faculty trust measures
Tschannen-Moran and Hoy (2000)	Comprehensive review of trust research
Hoy and Tschannen-Moran (2003)	Development of new faculty trust measures
Smith <i>et al.</i> (2001)	School health and dimensions of faculty trust
Tschannen-Moran (2001)	Faculty trust in clients and parental cooperation
Goddard <i>et al.</i> (2001)	Faculty trust in clients and student achievement
Hoy (2002)	Faculty trust in clients and student achievement
Tschannen-Moran (2004)	Faculty trust in clients and student achievement
Hoy and Tarter (2004)	Faculty trust and student achievement
Tarter and Hoy (2004)	Faculty trust and fairness and justice
Goddard <i>et al.</i> (2004)	Faculty trust in clients and student achievement
Tschannen-Moran <i>et al.</i> (1998)	Comprehensive review of teacher self-efficacy
Goddard <i>et al.</i> (2000)	Collective efficacy and student achievement
Goddard (2001)	On the measurement of collective efficacy
Goddard (2002)	A refined, short measure of collective efficacy
Study in year 2000	Collective efficacy and student achievement
Tarter and Hoy (2004)	Collective efficacy and student achievement
Goddard <i>et al.</i> (2004)	Collective efficacy and student achievement
Cybulski <i>et al.</i> (2005)	Collective efficacy and student achievement
Hoy <i>et al.</i> (2006a)	Dimensions of academic optimism
Hoy <i>et al.</i> (2006b)	Academic optimism and student achievement
Study in year 2007	Academic optimism and student achievement
Kirby and DiPaola (2009)	Academic optimism and student achievement
Wagner and DiPaola (2009)	Academic optimism and student achievement
McGuigan and Hoy (2006)	Academic optimism and student achievement
Forsyth <i>et al.</i> (2011)	Collective trust, academic optimism and achievement
DiPaola and Tschannen-Moran (2001)	On the measure of organizational citizenship
DiPaola and Hoy (2005a)	Organizational citizenship and achievement
Tarter and Cooper (2011)	Organizational citizenship and achievement
Woolfolk Hoy <i>et al.</i> (2008)	Correlates of individual academic optimism of elementary teachers
Beard <i>et al.</i> (2010)	Correlates of individual academic optimism of elementary teachers
Fahy <i>et al.</i> (2010)	Correlates of individual academic optimism of secondary teachers
Beard and Hoy (2010)	Teacher academic optimism and flow
Adams and Forsyth (2011)	Dimensions of student academic optimism

Table I.
Summary of the key
studies in our 40-year
odyssey

(HLM), make it possible to test multi-level models in schools. For example, we should be able to tease out the relative influence of academic optimism of the school (an organizational variable) and the academic optimism of teachers (an individual variable) on student achievement. Clearly, there is much to be done in our quest to understand the influence of schools and teachers on student learning and achievement.

Concluding comment

I have tried to sketch the story of my academic odyssey in search of positive organizational properties that foster achievement for all students regardless of socioeconomic status. The journey has been a long one with its lows and highs as well as discontinuities and continuities. I have been fortunate, however, to share the trek with good companions—my students and colleagues.

Students can be an important part of scholarship in educational administration, but they need guidance as well as theoretical perspective to anchor their work. Theoretical frameworks promote an agenda of related research that leads to the incremental development of knowledge and prevents seduction by the fads and fashions of the day. Of course, professors must hold their students to high standards of scholarship if the enterprise is to flourish. Moreover, it is often difficult to forbear the temptations of current fashion, but we can resist the lure of fads if we develop a systematic and theoretical research agenda over time for our students and ourselves.

Notes

1. For example, another strand of my research over the decades has focused upon humanistic and custodial pupil control orientations at both the individual and school level as an important school variable in the life of the schools. That stream of research has also been summarized in the *Journal of Educational Administration* (Hoy, 2001).
2. The development of the health instruments as well as the revised school climate openness instruments for elementary and secondary schools are explained in detail in *Open School/Healthy Schools* (Hoy et al., 1991).
3. The development of the school health and climate openness instruments for middle schools is explained in detail in *Quality Middle Schools: Open and Healthy* (Hoy and Sabo, 1998).
4. For a comprehensive review of the collective trust-student achievement relationship as well as a theory of collective, see our *Collective Trust* (Forsyth et al., 2011). For a comprehensive and interesting analysis of the dynamics of trust in schools, see *Trust Matters* (Tschannen-Moran, 2004).
5. For a more extended discussion and explanation of the development these three properties of schools see Forsyth et al. (2011) and Hoy et al. (2006b).

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