

Collective Efficacy Beliefs: Theoretical Developments, Empirical Evidence, and Future Directions

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*The authors wish to dedicate this article
to the memory of their friend and colleague
Dr. Paul Pintrich of the University of Michigan.*

This analysis synthesizes existing research to discuss how teachers' practice and student learning are affected by perceptions of collective efficacy. Social cognitive theory is employed to explain that the choices teachers make—the ways in which they exercise personal agency—are strongly influenced by collective efficacy beliefs. Although empirically related, teacher and collective efficacy perceptions are theoretically distinct constructs, each having unique effects on educational decisions and student achievement. Our purpose is to advance awareness about perceived collective efficacy and develop a conceptual model to explain the formation and influence of perceived collective efficacy in schools. We also examine the relevance of efficacy beliefs to teachers' professional work and outline future research possibilities.

Over a quarter century ago, Albert Bandura (1977) introduced the concept of self-efficacy perceptions or “beliefs in one’s capacity to organize and execute the courses of action required to produce given attainments” (Bandura, 1997, p. 3). Since that time, research in many arenas has demonstrated the power of efficacy judgments in human learning, performance, and motivation. For example, efficacy beliefs are related to smoking cessation, adherence to exercise and diet programs, performance in sports, political participation, and academic achievement (Bandura, 1997).

The last arena is of particular importance to educators. In the past two decades, researchers have found links between student achievement and three kinds of efficacy beliefs—the self-efficacy judgments of students (cf. Pajares, 1994, 1997), teachers’ beliefs in their own instructional efficacy (cf. Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998), and teachers’ beliefs about the collective efficacy of their school (Goddard, Hoy, & Woolfolk Hoy, 2000). Of the three, perceived collective efficacy is the most recent construct developed and has received the least attention from educational researchers. The purpose of this inquiry is to advance awareness about collective efficacy beliefs and de-

velop a conceptual model to explain the formation and influence of perceived collective efficacy in schools. We also explore the relevance of efficacy beliefs to teachers’ professional work and outline future research possibilities.

The connections between collective efficacy beliefs and student outcomes depend in part on the reciprocal relationships among these collective efficacy beliefs, teachers’ personal sense of efficacy, teachers’ professional practice, and teacher’s influence over instructionally relevant school decisions. Although we argue that perceived collective efficacy is emerging as an important concern for educational researchers, we do not confine our review of the literature to the field of education. Indeed, our case is strengthened by the striking similarity of findings in other fields, such as business/management and sociology, which demonstrate that collective efficacy beliefs are strongly related to other important group outcomes such as work group effectiveness and neighborhood safety. In the course of developing our case, we examine the social cognitive underpinnings of efficacy belief theory. Specifically, we address the nature of efficacy beliefs, their formation and change, and we focus on the extension of social cognitive theory to thinking about group capabilities. We begin with a look at efficacy constructs in general.

Efficacy Constructs: Distinctions and Clarifications

As defined in social cognitive theory, all efficacy belief constructs—student, teacher, and collective—are future-oriented judgments about capabilities to organize and execute the courses of action required to produce given attainments in specific situations or contexts (Bandura, 1997). The question is, Can I (the student or the teacher) or we (the faculty) orchestrate the thoughts and actions necessary to perform the task?

Efficacy judgments are beliefs about individual or group capability, not necessarily accurate assessments of those capabilities. This is an important distinction because people regularly over- or underestimate their actual abilities, and these estimations may have consequences for the courses of action they choose to pursue and the effort they exert in those pursuits. Over- or underestimating capabilities also may influence how well they use the skills they possess. As Bandura (1997) observes, “A capability is only as good as its execution. The self-assurance with which people approach and manage difficult tasks determines whether they make good or poor use of their capabilities. Insidious self-doubts can easily overrule the best of skills” (p. 35). For example, Bouffard-Bouchard, Parent, and Larivee (1991) found that children with the same level of skill development in mathematics differed significantly in their math problem-solving success, depending on the strength of their efficacy beliefs. Children

with a higher sense of self-efficacy more consistently and effectively applied what they knew; they were more persistent and less likely to reject correct solutions prematurely. In most cases, slightly overestimating one's actual capabilities has the most positive effect on performance.

In order to set the stage for an examination of perceived collective efficacy, we first consider the more well-researched efficacy belief constructs related to self and teaching.

Self-Efficacy Beliefs

Perceived self-efficacy is distinct from other conceptions of self, such as self-concept, self-worth, and self-esteem, in that it is *specific to a particular task*. "Self-esteem usually is considered to be a trait reflecting an individual's characteristic affective evaluation of self (e.g., feelings of self-worth or self-liking). By contrast, . . . [perceived] efficacy is a judgment about task capability that is not inherently evaluative" (Gist & Mitchell, 1992, p. 185). On the one hand, a person may possess a low sense of efficacy for a particular activity, such as figure drawing or downhill skiing, and suffer no diminishment of self-esteem because that person has not invested self-worth in doing that activity well. On the other hand, high achievers may display a great deal of skill, and yet evaluate themselves negatively because they have set personal standards that are very difficult to meet. Persons may question their self-worth, despite being very competent, if important others do not value their accomplishments, if their skills cause harm to others, or if they are members of groups that are not valued by society (Bandura, 1997). As self-referent perception of capability to execute specific behaviors, individual efficacy beliefs are better predictors of individual behavior than self-concept and self-esteem (Pajares & Miller, 1994). In fact, Bandura (1986) suggests that other self-referent constructs, such as self-concept, are related to outcomes mostly through their influence on self-efficacy beliefs; that is, one's sense of self-efficacy mediates the effects of self-concept on task success.

Teachers' Sense of Efficacy

The distinction between perception of competence and actual competence or performance is particularly important when considering teachers' sense of efficacy. The shorthand term often used is "teacher efficacy." Using this term, however, can be misleading because readers may make the logical mistake of assuming that "teacher efficacy" is the same as "teacher effectiveness" or successful teaching. Thus, it is important to avoid the term "teacher efficacy," talking instead about teachers' perceptions of efficacy, efficacy judgments, sense of efficacy, perceived efficacy, or efficacy beliefs. All these terms connote judgments about capabilities to accomplish a task.

The meaning and measure of teachers' sense of efficacy have been the subjects of considerable debate among scholars and researchers (Ashton, Olejnik, Crocker, & McAuliffe, 1982; Gibson & Dembo, 1984; Guskey, 1987; Guskey & Passaro, 1994; Pajares 1996a, 1996b, 1997; Tschannen-Moran et al., 1998). We know, for example, that teachers' sense of efficacy is a significant predictor of productive teaching practices. Compared to teachers with lower self-efficacy beliefs, teachers with strong perceptions of self-capability tend to employ classroom strategies that are more organized and better planned (Allinder, 1994), student centered

(Czerniak & Schriver, 1994; Enochs, Scharmann, & Riggs, 1995), and humanistic (Woolfolk & Hoy, 1990). Teachers' efficacy judgments are also strongly related to trust (Da Costa & Riordan, 1996), openness (DeForest & Hughes, 1992), and job satisfaction (Lee, Dedrick, & Smith, 1991). These studies provide considerable explanation for the positive link between teachers' sense of efficacy and student achievement (e.g., Anderson, Greene, & Loewen, 1988; Armor, Conroy-Oseguera, Cox, King, McDonnell, Pascal, et al., 1976; Ashton & Webb, 1986; Gibson & Dembo, 1984; Ross, 1992, 1994) because such approaches and attitudes are widely accepted as educationally productive.

Collective Efficacy Beliefs

In light of the promising findings about teachers' sense of efficacy, recent research has added an organizational dimension to inquiry about efficacy beliefs in schools. This section of the article considers the social cognitive underpinnings of efficacy belief theory and recent advances in research on collective efficacy beliefs.

Inquiry into collective efficacy beliefs emphasizes that teachers have not only self-referent efficacy perceptions but also beliefs about the conjoint capability of a school faculty. Such group-referent perceptions reflect an emergent organizational property known as *perceived collective efficacy* (see, e.g., Bandura, 1997; Goddard, Hoy, & Woolfolk Hoy, 2000; Hoy, Sweetland, & Smith, 2002). Within an organization, perceived collective efficacy represents the beliefs of group members concerning "the performance capability of a social system as a whole" (Bandura, 1997, p. 469). For schools, perceived collective efficacy refers to the judgment of teachers in a school that the faculty as a whole can organize and execute the courses of action required to have a positive effect on students.

If perceived collective efficacy is to be a useful construct for educational researchers, then the theoretical foundations of scholarship on efficacy beliefs should be thoroughly understood. We turn to that task next.

A Social Cognitive Perspective on the Formation and Change of Efficacy Beliefs

Although conceptually distinct, the constructs of perceived self and collective efficacy are both derived from social cognitive theory. The most fundamental assumption of social cognitive theory involves the choices that individuals and collectives make through the exercise of agency. According to social cognitive theory, the choices that individuals and organizations (through the actions of individuals) make are influenced by the strength of their efficacy beliefs.

Human and Organizational Agency

Agency concerns the ways that people exercise some level of control over their own lives. People are more likely to purposefully pursue goals that seem challenging, rewarding, and attainable (Bandura, 1997). When applied to teaching, social cognitive theory predicts that the decisions teachers make about their classroom practices are directly influenced by their sense of efficacy for teaching. The higher teachers' sense of efficacy, the more likely they are to tenaciously overcome obstacles and persist in the face of failure. Such resiliency, in turn, tends to foster innovative teaching and student learning.

Human agency is also critical to our understanding of group functioning. Indeed, social cognitive theory acknowledges that “personal agency operates within a broad network of sociostructural influences” (Bandura, 1997, p. 6) and, thus, the theory “extends the analysis of mechanisms of human agency to the exercise of collective agency” (p. 7)—people’s combined beliefs that they can work together to produce desired effects. When individuals and collectives choose to work in pursuit of certain attainments, their actions reflect the exercise of agency. Because agency refers to the intentional pursuit of a course of action, we see school organizations as agentive when they act purposefully in pursuit of educational goals. For example, one school may work to close achievement gaps by race while another acts to increase the quality of teacher professional development. When such differences are purposeful, they reflect the exercise of organizational agency. Of course, organizational agency results from the agentive actions of individuals directed at the attainment of desired goals.

Sources of Efficacy-Shaping Information for Groups

Bandura (1986, 1997) postulates four sources of efficacy-shaping information: mastery experience, vicarious experience, social persuasion, and affective state. Just as these sources are critical for individuals, they are also important to the development of collective efficacy beliefs. According to Bandura (1997), “[p]erceived personal and collective efficacy differ in the unit of agency, but in both forms efficacy beliefs have similar sources, serve similar functions, and operate through similar processes” (p. 478). In theory, on the one hand, all sources of personal efficacy-shaping information may indeed hold at the group level. On the other hand, it may be that some sources— affective states, for example—are less germane, or at least less well understood, as explanations for how collective efficacy perceptions form and change. With this caveat, we proceed with a discussion of the theoretical rationales and related evidence for assuming that each of the four sources of efficacy belief-shaping information specified in social cognitive theory operates at the group level.

Mastery Experience

A mastery experience is the most powerful source of efficacy information. The perception that a performance has been successful tends to raise efficacy beliefs, contributing to the expectation that performance will be proficient in the future. The perception that one’s performance has been a failure tends to lower efficacy beliefs, contributing to the expectation that future performances will also be inept. Attributions play a role as well. If the success is attributed to internal or controllable causes, such as ability or effort, self-efficacy beliefs are enhanced. But if success is attributed to luck or the intervention of others, self-efficacy beliefs may not be strengthened (Bandura, 1993; Pintrich & Schunk, 2002).

Mastery experiences are important for organizations; in fact, a substantial body of research is emerging on organizational learning (Huber, 1996; March, 1996; Simon, 1996). Consistent with Huber’s analysis of learning organizations, schools, like individuals, “tend to learn well what they do, and tend to do what they learn well” (p.152). Of course, it is through the learning of group members that organizational learning occurs. Teachers as a group experience successes and failures. Past school successes build teachers’ beliefs in the capability of the faculty, whereas failures

tend to undermine a sense of collective efficacy. If success is frequent and too easy, however, failure is likely to produce discouragement. A resilient sense of collective efficacy requires experience in overcoming difficulties through persistent effort.

Goddard (2001) recently tested the hypothesis that mastery experience significantly influences collective efficacy beliefs. He found that mastery experience (operationalized as prior school reading achievement) is a significant positive predictor of differences among schools in perceived collective efficacy. Indeed, not only was past school achievement a significant predictor of differences among schools in teachers’ perceptions of collective efficacy, but past school achievement was also a stronger predictor of perceived collective efficacy than aggregate measures of school race (i.e., proportion minority) and SES (operationalized as the proportion of students in a school who received a subsidized lunch). This finding supports the sociocognitive assumption that collective efficacy perceptions are strongly informed by mastery experience. Also, although mastery experience explained the majority of the variation among schools in collective efficacy beliefs, more than a third of this variation was unexplained. In other words, in addition to mastery experience, there are other factors systematically associated with organizations that may explain variation among groups in collective efficacy beliefs. These factors may include the other sources of efficacy belief-shaping information postulated by social cognitive theory and described next.

Vicarious Experience

A vicarious experience is one in which the skill in question is modeled by someone else. When a model with whom the observer identifies performs well, the efficacy beliefs of the observer are most likely enhanced. When the model performs poorly, the efficacy beliefs of the observer tend to decrease.

Just as teachers’ sense of efficacy is enhanced by observing successful models with similar characteristics (Gorrell & Capron, 1988; Schunk, 1981, 1983, 1987; Schunk & Zimmerman, 1997), perceived collective efficacy may also be enhanced by observing successful organizations, especially those that attain similar goals in the face of familiar opportunities and constraints. Organizations may also learn from somewhat dissimilar counterparts provided they have attained highly valued outcomes. Replication of successful educational programs across a wide variety of settings by schools aspiring to achieve similar success is a familiar example. Indeed, in the current high-stakes system of state-mandated testing and accountability, schools wanting improved educational outcomes may experience gains in perceived collective efficacy by observing successful educational programs offered by higher achieving schools. Borrowing from other organizations is a form of vicarious organizational learning, which is sometimes as effective as firsthand learning (Dutton & Freedman, 1985). These examples suggest that social cognitive theory may extend to the group level to explain that organizations do indeed learn vicariously about their capabilities (Argote, Beckman, & Epple, 1990; Huber, 1996; Levitt & March, 1988). We hasten to add, however, that the research on organizational learning is not nearly as developed as the work on individual learning, and, thus, more research is needed to understand better how observational learning affects perceived collective efficacy in organizations.

Social Persuasion

Social persuasion may entail encouragement or specific performance feedback from a supervisor or a colleague or it may involve discussions in the teachers' lounge, community, or media about the ability of teachers to influence students. Although social persuasion alone may be limited in its power to create enduring changes in efficacy beliefs, it may counter occasional setbacks that might have instilled enough self-doubt to interrupt persistence. The potency of persuasion depends on the credibility, trustworthiness, and expertise of the persuader (Bandura, 1986).

Social persuasion is another means of strengthening a faculty's conviction that it has the capabilities to set and achieve goals. Talks, workshops, professional development opportunities, and feedback about achievement can inspire action. Although verbal persuasion alone is not likely to compel profound organizational change, when coupled with models of success and positive direct experience, it can influence the collective efficacy beliefs of a faculty. Persuasion can encourage group members to innovate and overcome difficult challenges.

At the group level, social persuasion is a way of conceiving the ongoing socialization that organizational participants interdependently create and experience. Collective efficacy perceptions serve as normative expectations for goal attainment. A robust sense of group capability establishes a strong press for collective performance. Teachers new to a given school are socialized by the organization (Hoy & Woolfolk, 1990) and quickly learn about this aspect of their school's culture in interactions with other teachers and administrators. In schools possessed by a high degree of perceived collective efficacy, new teachers learn that extra effort and educational success are the norm. In turn, these high expectations for action create a normative press that encourages all teachers to do what it takes to excel and discourages them from giving up when faced with difficult obstacles.

Although the expectations of peer groups do not always win the day, organizational life is nevertheless filled with social exchanges that communicate expectations, sanctions, and rewards to members. Part of the organizational learning process deals with the acquisition of requisite orientations for satisfactorily functioning in a role (Parsons, 1951). Hence, expectations for action set by collective efficacy beliefs do not go unnoticed; rather, these expectations are an important part of organizational socialization and fundamental aspects of an organization's culture and its influence on group member performance.

Affective States

The level of arousal, either of anxiety or excitement, adds to individual's perceptions of self-capability or incompetence. We postulate that, just as individuals react to stress, so do organizations. For example, immediate past performance on state-mandated tests, which is typically widely publicized, plays a key role in influencing the mood of local schools. Organizations with strong beliefs in group capability can tolerate pressure and crises and continue to function without debilitating consequences; indeed, such organizations learn to rise to the challenge when confronted with disruptive forces. Less efficacious organizations, however, are more likely to react dysfunctionally, which, in turn, increases the likelihood of failure. Thus, affective states may influence how organizations interpret and react to the myriad challenges they face.

Admittedly, however, there is little research on the impact of the affective states of organizations on the collective efficacy beliefs and performance of participants; but, the theory is plausible and merits attention in future research.

The Pivotal Role of Cognition in the Interpretation of Efficacy Belief-Shaping Information

Ultimately, the exercise of agency depends upon how individuals and groups interpret efficacy beliefs shaping information and experiences. Raudenbush, Rowan, and Cheong (1992) interpret Bandura's (1986) work by characterizing perceived self-efficacy as "a cognition that mediates between knowledge and action" (p. 150). Indeed, Bandura (1997) more recently emphasized that the impact of mastery experience on efficacy beliefs does not depend entirely on the actual events of the performance; rather, efficacy beliefs are created when individuals weigh and interpret their performance relative to other information. According to Bandura, "changes in perceived efficacy result from cognitive processing of the diagnostic information that performances convey about capability rather than the performances per se" (1997, p. 81). The same is true for all four sources of efficacy information—the role of cognition is critical. That is, perceptions of efficacy for various individual and collective pursuits arise from cognitive and metacognitive processing of the sources of efficacy belief-shaping information described here.

We now describe several approaches to the conceptualization and measurement of perceived collective efficacy that serve to ground the meaning of the construct and inform those interested in its measure.

Measurement Issues

There are several approaches to the measurement of collective efficacy perceptions. One approach is to aggregate measures of individual (self-) efficacy beliefs. Such an aggregate measure of self-efficacy beliefs would be a group mean of self-referent perceptions. For example, a teacher efficacy belief survey item might read, "I have what it takes to get my students to learn." Responses to this and other "I-" referent statements would be averaged to assess the collective sense of efficacy of the school.

Another possibility is to aggregate measures of individuals' perceptions of *group-referent* capability. The difference here refers to the object of the efficacy perception—"we" instead of "I." A group-referent collective efficacy belief item might read, "Teachers in this school have what it takes to educate students here." Responses to this and other "we-" referent statements would be averaged to assess the collective sense of efficacy in a school.

A third approach is to ask group members to discuss their group capabilities together and come to a consensus about their sense of collective efficacy. One problem with the group consensus approach is that it is susceptible to social desirability bias that can undermine the validity of the assessment (Bandura, 1997). Another concern is that seeking a group consensus masks within-group variability in collective efficacy perceptions (Bandura, 1997).

A fourth approach is to focus on the extent to which there is agreement among group members across their individual perceptions. Before discussing this option, however, we elaborate on the second approach above (i.e., group-referent perceptions of capability), because we believe creating aggregate measures of

group-referent perceptions is an effective means of assessing perceived collective efficacy.

Bandura (1997) observed that “perceived collective efficacy is an emergent group-level attribute rather than simply the sum of members’ perceived *personal* efficacies” (emphasis added, p. 478). Conceptually, we agree. Aggregating individual perceptions of *group* (as opposed to *self*) capability serves to assess perceived collective efficacy as an emergent organizational property by combining individual group members’ interdependent perspectives on group capability. Questions about group capability elicit perspectives on the obstacles, constraints, and opportunities of a given social system more readily than do items asking individuals about their self-capability, which varies more as a function of *individual* (as opposed to *group*) differences. Importantly, in a study of teachers’ beliefs, Goddard (2003) showed that individual perceptions of self-capability varied less than 5% between groups. In drastic contrast, individual perceptions of group capability varied more than 40% among groups. Empirically, this finding is consistent with Bandura’s (1997) assertion that perceived collective efficacy varies greatly among groups. Thus, we argue that to better capture the emergent properties created by group interdependence, even in somewhat loosely coupled systems such as schools, it is usually appropriate to conceive and assess perceived collective efficacy as the aggregate of individual perceptions of group capability.

This leaves one final question about the measure of perceived collective efficacy. In addition to using group mean scores, should researchers also consider the amount of agreement among teachers in the assessment of collective efficacy beliefs? Fortunately, this question has been addressed in empirical work on collective efficacy beliefs. Goddard (2001) measured a school’s sense of collective efficacy as an aggregate of teachers’ group-referent efficacy perceptions and also as the degree of agreement around the mean (variance measures were employed to estimate the amount of within-school variability among faculty perceptions of collective efficacy). The results showed that although the level of agreement did vary across schools, this variability was a non-significant predictor of differences among schools in student achievement; in contrast, the aggregate (school mean) measure of perceived collective efficacy was a strong positive predictor of student achievement differences among schools even after accounting for the variance in achievement explained by students’ sociodemographic backgrounds.

Goddard offered as a theoretical possibility that the non-findings for agreement were consistent with the median voter model from economic theory (Hyman, 1995), which explains that political election outcomes so often represent the preferences of median voters because these preferences are the ones most likely to gain majority support in a given social system. The parallel for a normative theory of social organization is that aggregate scores representing the mean of organizational members’ group-referent efficacy perceptions appear to effectively tap expectations for group performance that, in fact, do influence the outcomes of organized activity. This conclusion, however, is tentative because no other studies comparing the effects of agreement among group members and mean perceived collective efficacy scores are currently available.

Further research is needed to more fully understand what role agreement may play in our conception of perceived collective efficacy and its effects. The preponderance of evidence to date, however, suggests that aggregates of individual perceptions of group capability do indeed tap the perceived collective efficacy of organizations. Therefore, for the remainder of this article, when we refer to collective efficacy beliefs, we are referring to the *aggregate of individual group members’ perceptions of group capability*. To avoid repeating this important but awkward detail, we imply this conceptual understanding when we define collective efficacy beliefs as the perceptions of teachers in a school that the faculty as a whole can organize and execute the courses of action required to have a positive effect on students. Also important to note is that the research on perceived collective efficacy to date has been concerned with teachers’ beliefs about the capability of a faculty to promote student achievement. Future researchers may find it useful to conceive of collective efficacy beliefs relative to other important aspects of schooling such as students’ emotional growth and development or community involvement. In this article, however, our consideration of collective efficacy perceptions involves teachers’ judgments of group capability to promote student achievement.

With this understanding of the conceptualization and measurement of perceived collective efficacy, we turn next to a discussion of evidence relating collective efficacy beliefs to the attainments of organized activity.

Collective Efficacy Beliefs and Group Goal Attainment

Perhaps the most compelling reason for the recent development of interest in perceived collective efficacy is the probable link between collective efficacy beliefs and group goal attainment. Within education, several studies have documented a strong link between perceived collective efficacy and differences in student achievement among schools (Bandura, 1993; Goddard, 2001; Goddard et al., 2000). Bandura demonstrated that the effect of perceived collective efficacy on student achievement was stronger than the direct link between SES and student achievement. Similarly, Goddard and his colleagues have shown that, even after controlling for students’ prior achievement, race/ethnicity, SES, and gender, collective efficacy beliefs have stronger effects on student achievement than student race or SES. Teachers’ beliefs about the collective capability of their faculty vary greatly among schools and are strongly linked to student achievement.

In addition to its strong relationship with student academic outcomes, recent research in other fields also suggests the importance of collective efficacy beliefs to goal attainment. For example, Sampson, Raudenbush, and Earls (1997) showed that the more robust the sense of collective efficacy in city neighborhoods, the less likely was the occurrence of neighborhood violence. Neighborhoods in which residents reported a strong sense of collective efficacy were also ones in which citizens felt an expectation for action that predisposed them to intervene to decrease violent activity. Such social sanctions serve as deterrents to those who might otherwise violate group expectations. In addition, Little and Madigan (1997) have shown that perceived collective efficacy is a strong positive predictor of work group effectiveness. They observe that a group’s sense of collective efficacy has “a mediating, or

facilitating effect on team performance” (p. 518). As these examples demonstrate, the conceptualization of perceived collective efficacy is robust; across settings, perceptions of group capability tend to be strongly and positively related to group processes and outcomes.

The power of collective efficacy perceptions to influence organizational life and outcomes lies in the expectations for action that are socially transmitted by collective efficacy perceptions (Sampson, Morenoff, & Earls, 2000). Indeed, Sampson et al. (2000) argue that collective efficacy beliefs are important to group functioning because they explain *how organized capacity for action is tapped to produce results*. For example, dense and trusting relational networks might reflect high levels of social capital in a group; however, the potential for such social resources to influence outcomes is reached only when a group’s sense of collective efficacy is sufficiently robust to compel members to action in pursuit of desired organized attainments (Sampson et al., 2000). Perceptions of collective efficacy directly affect the diligence and resolve with which groups choose to pursue their goals. Hence, perceived collective efficacy is a potent way of characterizing the strong normative and behavioral influence of an organization’s culture. Knowledge about collective efficacy beliefs is, therefore, critical to understanding the influence of school culture on teachers’ professional work and, in turn, student achievement.

As educators look for approaches to school improvement that can help all students reach high levels of achievement, it is timely and important to examine how schools can be empowered to exert control over their circumstances. The strong link between group performance and perceived collective efficacy can be explained by the resiliency with which the efficacious pursue given goals. Analogous to self-efficacy judgments, perceived collective efficacy is associated with the tasks, level of effort, persistence, shared thoughts, stress levels, and achievement of groups. Thus, just as teachers’ sense of efficacy partially explains the effect of teachers on student achievement, from an organizational perspective, a faculty’s sense of collective efficacy helps to explain the differential effect that school cultures have on teachers and students. Hence, it is reasonable (and correct) to expect that some schools have a positive influence on teachers whereas the impact of other schools is much less productive. For example, some teachers will find themselves in schools with low morale and a depressed sense of collective efficacy whereas other teachers will work in schools possessed by a high degree of mutuality, shared responsibility, and confidence in the conjoint capability of the faculty. As the possibilities sketched here suggest, the sense of collective efficacy in a school can affect teachers’ self-referent thoughts and, hence, their teaching performance and student learning.

Having discussed the social cognitive underpinnings of perceived collective efficacy and its relation to group goal attainment, we turn now to a discussion of how collective efficacy beliefs are related to two important dimensions of schooling. Specifically, this section of the article examines the theoretical and empirical linkages among perceived collective efficacy, teachers’ sense of efficacy and, teachers’ influence over instructionally relevant school decisions.

Collective Efficacy Beliefs in Schools: Connections to Teachers’ Sense of Efficacy and Influence

Research suggests that perceived collective efficacy is strongly related to student achievement in schools (e.g., Bandura, 1993; Goddard, Hoy, & Woolfolk Hoy, 2000). The link between collective efficacy beliefs and student achievement occurs, from a theoretical perspective, because a robust sense of group capability establishes expectations (cultural norms) for success that encourages organizational members to work resiliently toward desired ends. The purpose of this section of the article is to expand our knowledge about this relationship by examining recent research on the linkages between perceived collective efficacy and teachers’ sense of efficacy for instruction and, between perceived collective efficacy and teachers’ influence over instructionally relevant decisions in schools. These recent findings contribute to our understanding of both how collective efficacy beliefs are related to student achievement, and also to how collective efficacy beliefs may be developed in organizations.

Linking Collective Efficacy Beliefs to Teachers’ Sense of Efficacy in Schools

We know that teachers’ efficacy judgments vary among schools (Goddard & Goddard, 2001; Raudenbush et al., 1992). Moreover, evidence suggests that teachers’ sense of efficacy is positively related to aspects of organizational context such as positive school climate, lack of impediments to effective instruction, and teacher empowerment (Moore & Esselman, 1992) as well as principal influence with superiors and the academic press of a school (Hoy & Woolfolk, 1993). Together, these studies suggest that emergent school contextual factors influence teachers’ perceptions of self-efficacy for educating students successfully.

The research suggests that a school’s culture of perceived collective efficacy may exert a strong influence on teachers’ sense of efficacy for instruction. Given, however, that teachers work almost exclusively in the isolation of their classrooms, one might reasonably ask how perceived collective efficacy could make a meaningful difference to their perceptions of self-efficacy for teaching and, in turn, their teaching practice. Indeed, many argue that educational processes and outcomes are loosely coupled (e.g., Meyer & Rowan, 1977, 1978); such loose coupling, in turn, makes the work of teaching complex and shelters it from influence situated beyond the classroom. However, even if we accept that within a broad set of constraints teachers have a great deal of pedagogical freedom, this alone does not prevent the social influence of organizational culture from reaching classrooms through its influence on teachers’ thoughts and beliefs. According to Bandura (1997),

People working independently within a group structure do not function as social isolates totally immune to the influence of those around them. . . . the resources, impediments, and opportunities provided by a given system partly determine how efficacious individuals can be, even though their work may be only loosely coupled. (p. 469)

Bandura’s (1997) argument suggests that it is quite reasonable to expect a positive relationship between teachers’ sense of efficacy and the emergent school property, perceived collective efficacy. To

explain this link more fully, we draw upon Coleman's social theory of normative influence and Bandura's social cognitive theory.

Social theory of normative influence

Given the general agreement among scholars and researchers that beliefs about group capability influence the actions of organizational members (Bandura, 1986; Raudenbush, Rowan, & Cheong, 1992; Sampson, Morenoff, & Earls, 2000), it is useful to consider the influence of social norms on individual behavior. According to Coleman (1985, 1987, 1990), norms develop in order to provide members of a community with some influence over the actions of others, particularly when those actions have consequences for the group. Thus, in a school characterized by a high level of perceived collective efficacy, a teacher whose actions are inconsistent with group expectations for academic achievement is likely to be sanctioned by the faculty. A good example of this phenomenon was documented recently by Skrla and Goddard (2002) who studied collective efficacy beliefs in schools serving a student population characterized by a majority of Hispanic students living in poverty. According to one teacher in a focus group interview,

[W]e're told it so many times, it's just a part of life, we know that to work here you have to do whatever it takes to get [the students to succeed]. To reach our goal. And, you know, I believe there are enough teachers who have bought into that belief to where if you hear a teacher that may not be quite there, I believe that by the time they hang around, either they will be there, or they'll be out the door. . . ." (pp. 17-18).

Such language suggests that collective expectations for action are indeed a powerful aspect of a school's operative culture and its influence on individual teachers. From a sociocognitive perspective, the power of this normative press lies in the social persuasion it exerts on teachers. In other words, collective efficacy beliefs serve to encourage certain actions and constrain others.

Mastery experience

Consideration of the impact of mastery experiences on teacher beliefs about self and group capability also helps explain why teacher and collective efficacy perceptions should positively covary. In schools, collective mastery experiences usually result from the actual successes of individual teachers. A school with high scores on state-mandated achievement tests, for example, has one or more teachers who were directly successful with the students in their classrooms. Mastery experience, thus, can act in concert at both the individual and organizational level. Given this, teacher and collective efficacy beliefs will likely covary positively in response to group successes.

Together these rationales suggest that individuals are aware of and influenced by the social processes and collective beliefs that characterize an organization's culture. Applied to schools, such reasoning suggests that teachers' thoughts about their own capabilities will be influenced by beliefs about group capability that characterize the culture of their schools. It is also important to note that this influence relationship is mutual, not unidirectional. That is, an organization in which most participants are individually quite confident about their own capabilities will also likely be one in which collective efficacy perceptions are relatively strong and expectations for success are high. Such mutual influ-

ence relationships reflect what Bandura (1997) has termed *reciprocal causality*.

Notably, Goddard and Goddard (2001) recently tested the multilevel relationship between teacher and collective efficacy beliefs. Specifically, they employed data collected from elementary teachers in a large Midwestern school district to test the hypothesis that perceived collective efficacy was positively related to differences among schools in teachers' sense of efficacy. In addition to perceived collective efficacy, school SES, proportion minority, and school size were employed as covariate measures of school context. In their analyses, perceived collective efficacy emerged as the strongest predictor of variation among schools in teachers' sense of efficacy. Indeed, before accounting for the effects of SES and past math achievement, a one standard deviation increase in perceived collective efficacy was associated with a .191 standard deviation increase in teachers' sense of efficacy. Moreover, after adjusting for differences related to school SES and past achievement, the increase in teachers' sense of efficacy associated with a one standard deviation increase in perceived collective efficacy was .25 standard deviations.

To understand the strength of this multilevel relationship between teacher and collective efficacy beliefs, it is essential to review the variance decomposition statistics reported in the study. Specifically, when school SES, proportion minority, size, and past achievement were tested as stand-alone predictors, each explained less than 25% of the variance among schools in teachers' sense of efficacy. When perceived collective efficacy was tested as a stand-alone predictor, it explained nearly 75% of the between-school variation in teachers' sense of efficacy. In combination (combined model), SES, past achievement, and perceived collective efficacy explained slightly more than 80% of the between-school variability in teachers' sense of efficacy. It is important to note that in the combined model only perceived collective efficacy was a statistically significant predictor. Hence, when compared with the impact of several powerful and commonly employed school contextual controls (SES, proportion minority, school size, and past achievement), perceived collective efficacy is the aspect of school cultural context most strongly related to teachers' sense of personal efficacy. Notably, the reason for the stand-alone analyses was that the combined model likely suffers from multicollinearity because of the positive association between perceived collective efficacy, past achievement, and SES. Still, these findings support the theoretical explanations sketched earlier to explain that perceived collective efficacy has a strong influence on the normative environment of schools and makes a difference to teachers' self-referent perceptions of capability.

These findings indicate that perceived collective efficacy is a potent way of characterizing school culture. Indeed, collective efficacy beliefs are far more strongly related to teachers' perceptions of self-capability than many more common measures of school context. Moreover, these findings also suggest that collective efficacy beliefs may influence student achievement indirectly through their relationship with teachers' sense of efficacy. As postulated by social cognitive theory, social influence shapes self-efficacy beliefs. That is, where teachers tend to think highly of the collective capability of the faculty, they sense an expectation for successful teaching and hence are increasingly likely to put forth the effort required to help students learn. Conversely, where perceived collective

efficacy is lower, it is less likely that teachers will be pressed by their colleagues to persist in the face of failure or that they will change their teaching when students do not learn.

Having reviewed evidence that perceived collective efficacy is systematically related to teachers' sense of efficacy and student achievement differences among schools, we turn now to an important question that has received relatively little research attention. Specifically, what do we know about strengthening perceived collective efficacy in schools?

Organizing Schools to Foster Collective Agency

We know that schools high in perceived collective efficacy usually have relatively high levels of student achievement (e.g., Bandura, 1993). To make such knowledge useful, however, it is important to understand how schools can be organized to foster positive collective efficacy beliefs. Given the social cognitive assumption that the agentive choices of individuals and organizations are strongly influenced by efficacy beliefs, we report the findings of recent research that offers a strong link between opportunities to exercise collective agency and levels of perceived collective efficacy.

When teachers have the opportunity to influence *instructionally relevant* school decisions, collective conditions encourage teachers to exercise organizational agency. The more teachers have the opportunity to influence instructionally relevant school decisions, the more likely a school is to be characterized by a robust sense of collective efficacy. To learn more about this possibility, Goddard (2002a) examined perceived collective efficacy as a predictor of differences among schools in the level of influence teachers have over instructionally relevant school decisions. Scale items employed to tap teacher influence over instructionally relevant decisions reflected teachers' reported level of control over curriculum, instructional materials and activities, professional development, communication with parents, student placement, and disciplinary policy. Findings from this study indicate that, after adjusting for school context, a .41 standard deviation increase in the extent to which teachers reported exerting influence over instructionally relevant school decisions was positively associated with a one standard deviation increase in perceived collective efficacy. That is, where teachers have the opportunity to influence important school decisions, they also tend to have stronger beliefs in the conjoint capability of their faculty.

From the perspective of social cognitive theory, the results highlight the important role of structures and actions that enable groups to exercise collective agency. When group influence is stifled, people are more likely to see the events around them as outside their control. This is the case, for example, in many traditional schools where principals retain power over nearly all decisions. The results of Goddard's (2002a) study, however, suggest the need for practices that enable group members to exert influence and exercise organizational agency. Bandura (1997) refers to such efforts as "group enablement." He observes that ". . . collective enablement programs take many different forms, but the shared assumption is that they work in part by enhancing people's sense of efficacy to bring about change in their lives" (p. 503). Schools that formally turn over instructionally relevant school decisions to teachers tend to have higher levels of perceived collective efficacy. Collective efficacy beliefs, in turn, foster commitment to school goals and gains in student achievement.

Conclusions and a Framework for Future Research

There seems to be little doubt that collective efficacy beliefs are an important aspect of an organization's operative culture. The strong relationship between teachers' sense of efficacy and perceived collective efficacy provides evidence that organizational socialization involves the communication of influential normative expectations for achievement. Indeed, the research analyzed here suggests that a strong sense of collective efficacy enhances teachers' self-efficacy beliefs while weak collective efficacy beliefs undermine teachers' sense of efficacy, and vice versa. This mutual influence relationship helps explain the consistent finding that perceived collective efficacy is a significant factor in the attainment of organizational goals. Moreover, the research evidence suggests that, when teachers are empowered to influence instructionally relevant school decisions, they are likely to report more confidence in the capability of their faculty to educate students than would be the case if teachers were given less control over decisions that affect their professional work. Indeed, enabling faculty members to exert some control over school decisions may be one approach to strengthening collective efficacy beliefs in schools. Still, the question of how perceptions of group capability might be changed to strengthen organizational culture is an understudied area in collective efficacy belief research.

Thus, much remains to be known about perceived collective efficacy and the group-level extensions of its social cognitive underpinnings. Toward the end of providing a framework for future research into the meaning, effects, and change of collective efficacy perceptions, Figure 1 summarizes a preliminary conceptual model that depicts the hypothesized formation and influence of collective efficacy beliefs in organizations. This model reflects the social cognitive underpinnings of collective efficacy belief research and also suggests several areas for future research. For example, as we have noted, more research is needed to understand whether all sources of efficacy belief-shaping information depicted in the model (e.g., affective state) hold at the group level. In addition, the model notes a number of plausible outcomes of collective efficacy perceptions. Cultural change might be evidenced, for example, by changes in the outcomes suggested in Figure 1, such as student achievement and teacher commitment. A better understanding of the outcomes of perceived collective efficacy holds a potential to deepen our understanding of how to improve organizational culture.

In sum, we believe that, while complex, questions regarding teachers' collective efficacy beliefs are important to our understanding of organizational transformation and, in particular, the success of public schools in educating our youth for effective participation in a democratic society. The recently passed No Child Left Behind Act calls for elevated levels of student achievement and the closing of achievement gaps by race and ethnicity. Such changes to the landscape of U.S. public education are unparalleled. We believe that the study of collective efficacy beliefs provides an opportunity to understand organizational culture and its influence on participants and group outcomes in new ways that hold promise for deeper theoretical understanding and practical knowledge concerning the improved function of organized activity, particularly schooling.

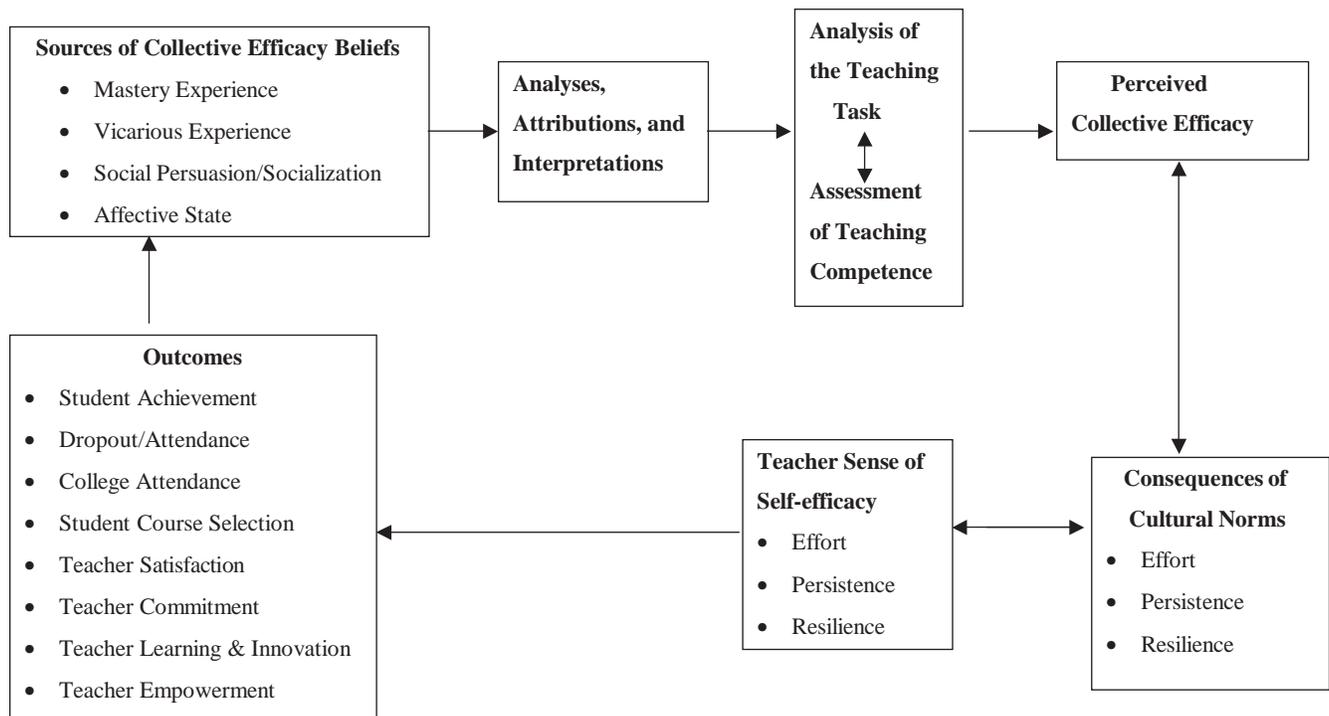


FIGURE 1. Proposed model of the formation, influence, and change of perceived collective efficacy in schools.

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