Cultivating Principals’ Sense of Efficacy:
Supports That Matter

Megan Tschannen-Moran
The College of William and Mary
Williamsburg, VA

Christopher R. Gareis
The College of William and Mary
Williamsburg, VA

Presented at the annual meeting of the University Council for Educational Administration
November 11, 2005
Nashville, TN
Cultivating Principals’ Sense of Efficacy: Supports That Matter

Abstract

This paper reports on a study to identify supportive elements associated with stronger principal self-efficacy beliefs in schools, that is, a principal’s self-perception of his or her leadership capability. The participants were 558 principals in Virginia who completed mailed surveys of the 18-item Principal Sense of Efficacy Scale (PSES) as well as questions which focused on demographics, preparation, school context, and perceptions of interpersonal support. Bivariate correlational analysis and multiple regression demonstrated that, by-and-large, demographic and school context variables were not strong predictors of principals’ self-efficacy beliefs, while perceptions of the quality and utility of their preparation and the interpersonal support received from others played much larger roles. Implications for practice suggest the need for the cultivation of self-efficacy beliefs in principal preparation and interpersonal support of practicing school leaders from both colleague and client audiences, with an understanding of the reciprocating causative nature of such support. These findings also suggest that principals’ self-efficacy is a promising new construct that warrants future investigation.
Cultivating Principals’ Sense of Efficacy: Supports That Matter

Good principals are widely acknowledged as the cornerstones of good schools; without a principal’s leadership, efforts to raise student achievement in a school are unlikely to succeed. The principal is a key agent at the school level. He or she sets the tone and direction for the school, initiates change, provides expertise, marshals resources, unifies partners, and maintains effort. The job is complex and demanding, requiring a depth of professional knowledge, an array of skills, and particular beliefs or dispositions about how and why to act (Council of Chief State School Officers, 1996). Social cognitive theory proposes that central to marshaling this array of abilities is the principal’s own sense of efficacy—that is, a principal’s determination of his or her own effectiveness at a given task or set of tasks, considering his or her own capabilities and experiences, as well as the context in which he or she is working (Bandura, 1997). Principal self-efficacy is a promising, but largely unexplored, construct for understanding principal motivation and behavior. This paper reports on a study to identify supportive elements associated with strengthening principal self-efficacy beliefs.

Theoretical Framework

A principal’s sense of efficacy is a judgment of his or her capabilities to structure a particular course of action in order to produce desired outcomes in the school he or she leads (Bandura, 1997). It is a principal’s self-perceived capability to perform the cognitive and behavioral functions necessary to regulate group processes in relation to goal achievement (McCormick, 2001, p. 30). A principal’s self-efficacy beliefs have a significant impact on his or her level of aspiration and goal-setting, effort, adaptability, and persistence (Bandura, 1986; Gist & Mitchell, 1992). Bandura (2000) explained that, “when faced with obstacles, setbacks, and
failures, those who doubt their capabilities slacken their efforts, give up, or settle for mediocre solutions. Those who have a strong belief in their capabilities redouble their efforts to master the challenge” (p. 120). Self-efficacy beliefs affect the development of functional leadership strategies and the skillful execution of those strategies (McCormick, 2001).

The role of self-efficacy beliefs in effective leadership is multifaceted. Perceived self-efficacy has been found to influence analytic strategies, direction-setting, and subsequent organizational performance of managers (Paglis & Green, 2002; Wood & Bandura, 1989). A robust sense of efficacy is necessary to sustain the productive attentional focus and persistent effort needed to succeed at organizational goals (Wood & Bandura, 1989).

As school leaders, principals must facilitate group goal attainment by establishing and maintaining an environment favorable to group performance. Drawing the connection between social cognitive theory and leadership, McCormick (2001) noted that, “Successful leadership involves using social influence processes to organize, direct, and motivate the actions of others. It requires persistent task-directed effort, effective task strategies, and the artful application of various conceptual, technical, and interpersonal skills” (p. 28). Leadership self-efficacy has been related to performance evaluations by observers in both leadership simulations and in ratings by peers and superiors in actual work settings (Chemers, Watson, & May, 2000; Paglis & Green). In these studies, the self-efficacy beliefs of leaders were also shown to impact the attitude and performance of followers. Leaders’ perceived self-efficacy beliefs were related to subordinates’ performance abilities, as well as to success at gaining followers’ commitment to the task. The self-efficacy of organizational leaders has also been shown to mediate employee’s engagement with their work and to overcoming obstacles to change (Luthans & Peterson, 2002).
Self-efficacy is a cognitive construct that is task and context specific (Bandura, 1977). Currently, empirical studies of principal’s sense of efficacy are few; nevertheless, the results are enticing. Principals with a strong sense of self-efficacy have been found to be persistent in pursuing their goals but are also more flexible and more willing to adapt their strategies based on contextual conditions. They view change as a slow process. They are steadfast in their efforts to achieve their goals, but they do not persist in unsuccessful strategies (Osterman & Sullivan, 1996). Confronted with problems, principals with a high sense of self-efficacy do not interpret their inability to solve the problems immediately as failure. They regulate their personal expectations to correspond to conditions, typically remaining confident and calm and keeping their sense of humor, even in difficult situations. Principals with higher self-efficacy are more likely to use internally-based personal power, such as expert, informational, and referent power, when carrying out their roles (Lyons & Murphy, 1994).

By contrast, principals with a low sense of self-efficacy have been found to perceive an inability to control the environment and tend to be less likely to identify appropriate strategies or modify unsuccessful ones. When confronted with failure, they rigidly persist in their original course of action. When challenged, they are more likely to blame others. Low self-efficacy principals are unable to see opportunities, to adapt, or to develop support (Osterman & Sullivan, 1996). They demonstrate anxiety, stress, and frustration, and are quicker to call themselves failures. Those with a low sense of self-efficacy are more likely to rely on external and institutional bases of power, such as coercive, positional, and reward power (Lyons & Murphy, 1994). The perception of the environment as uncontrollable typically has a debilitating effect on individual goal setting and problem solving.
Inefficacious beliefs have been related to higher levels of burnout (Friedman, 1997). Task stressors such as overload, role ambiguity and role conflict, external relations with stakeholders such as parents and community representatives, as well as emotional and problem-focused coping strategies, each play a role in predicting burnout. Burnout among principals has been associated with exhaustion and a lack of a sense of accomplishment, as well as negative attitudes, and depersonalization or a lack of empathy toward teachers, students, and parents. A poor sense of self-efficacy, therefore, has been associated with a sense that one can no longer perform the role of principal.

Principals’ Impact on Teachers Self-efficacy Beliefs

The emerging picture of the role of self-efficacy beliefs in principals exhibits compelling potential ramifications when considering the central function of the leadership of others that principals fulfill. Specifically, the leadership behavior of principals has been linked to teacher efficacy beliefs. When the principal of a school was able to inspire a common sense of purpose among teachers, modeled appropriate behavior, and provided rewards contingent on performance, teacher self-efficacy beliefs were higher (Hipp & Bredeson, 1995). Principals who used their leadership to foster a healthy school climate including an orderly and positive school atmosphere with a strong press for academic achievement created the context for strong self-efficacy beliefs to flourish (Hoy & Woolfolk, 1993; Moore & Esselman, 1992). Where principals allowed teachers flexibility over classroom affairs and greater classroom-based decision making, teachers tended to have stronger self-efficacy beliefs (Moore & Esselman, 1992). Finally, schools where student disorder was kept to a minimum and where teachers were buffered from disruptive factors were schools in which teachers felt a greater sense of efficacy (Lee, Dedrick, & Smith, 1991).
Cultivating Principals’ Self-efficacy Beliefs

At the heart of the theoretical rationale explaining the relationship observed between principal’s sense of efficacy and their performance, use of power, and coping strategies, is Bandura’s (1997) theory of triadic reciprocal causation. Triadic reciprocal causation focuses attention of the interaction between internal and external factors at work in a leadership context. Principals’ behavior is influenced by their internal thoughts and beliefs, but these beliefs are shaped by elements in the environment, including other individuals.

While principal self-efficacy evidently plays a role in effective school leadership practices, less is known about the kinds of context variables linked to cultivating a higher sense of efficacy (Labone, 2004). Self-efficacy beliefs are task and context specific. Thus, principals may feel efficacious for leading in particular contexts, but this sense of efficacy may or may not transfer to other contexts depending on the perceived similarities of the task. Social cognitive theory proposes that personal factors such as cognitive processes and behavior interact with the environment to influence each other through a process of reciprocal causation (Bandura, 1986, 1997). It is, therefore, instructive to examine reciprocal relationships between personal factors, school context, and principals’ self-efficacy beliefs.

In making an efficacy judgment, consideration of the aspects of the task at hand, including those elements that are facilitative as well as those that are obstacles in a specific context, are required. In addition, it is necessary to assess one’s strengths and weaknesses in relation to the requirements of the task (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). In analyzing the task, the relative importance of factors that make leading difficult or act as constraints in a particular context are weighed against an assessment of the resources available that facilitate leadership. In assessing self-perceptions of competence, a school principal assesses
personal capabilities such as skills, knowledge, strategies, and personality traits against personal weaknesses or liabilities in a particular school setting. The interaction of these two components leads to judgments about self-efficacy for leadership in a particular school context.

*When Can Sense of Efficacy be Changed?*

Efficacy beliefs are considered to be most pliable early in learning. Bandura (1997) proposed four sources of efficacy beliefs: mastery experiences, vicarious experiences, verbal persuasion, and physiological experiences. Mastery experiences are thought to be the most potent. Other sources will have the greatest impact early in learning when fewer mastery experiences are available. Once an abundance of mastery experience accumulates, the other three sources are less likely to be considered or to cause a reassessment of established efficacy beliefs. Bandura suggested that it would take a shock of some kind, such as the assignment to a very different work context or a dramatic change in the outcomes one has been accustomed to achieving (either better or worse), to provoke such a reassessment.

In the realm of teaching, there is evidence to suggest that context variables seem to be particularly salient for novice teachers and as teachers move into new contexts (Chester & Beaudin, 1996; Tschannen-Moran & Woolfolk Hoy, 2001; Woolfolk Hoy & Burke-Spero, in press). Confident new teachers gave higher ratings to the adequacy of support they had received compared to teachers who ended their first year of teaching with a shakier sense of their own competence (Burley, Hall, Villeme, & Brockmeier, 1991; Hall, Burley, Villeme, & Brockmeier, 1992). Among newly-hired teachers in an urban context, certain school practices apparently contributed to increased self-efficacy, including greater opportunity for collaboration with other adults and more regular and consistent observations of teaching (Chester & Beaudin, 1996).
For principals, interpersonal support from the superintendent, central office staff, teachers, support staff, and parents could serve as important resources in a given school context (Bandura, 1997). In addition, important elements in the school context, such as the resources available and the quality of facilities, the school level and setting, and the proportion of low-income students, could impact principals’ assessment of the leadership task as one they felt was conducive to their success or one that would make success more difficult. Moreover, it unknown what personal demographic factors might be related to principal’s self-efficacy beliefs, such as their race, gender, years of experience and preparation for the principalship. This study examined each of these factors, with the expectation that they would be found to be positively related to principals’ self-efficacy beliefs.

Methods

This study examined the extent to which personal factors as well as principals’ assessments of key resources and supports in their school contexts contributed to their self-efficacy judgments. The measures, participants, and analyses used are described below.

Measures

The Principal Sense of Efficacy Scale (PSES)\(^1\) is an 18-item measure that assesses principals’ self-perceptions of their capability to accomplish various aspects of school leadership (Tschannen-Moran & Gareis, 2004). Written instructions directed the participants to “Respond to each of the questions by considering the combination of your current ability, resources, and opportunity to do each of the following in your present position.” All items began with the sentence stem, “In your current role as principal, to what extent can you….” A nine-point scale was used and anchored at: 1= None at All, 3 = Very Little, 5 = Some Degree, 7 = Quite A Bit,
and 9 = A Great Deal. Sample items include: “In your current role as principal, to what extent can you…”

- facilitate student learning in your school?
- generate enthusiasm for a shared vision for the school?
- foster productive communication with parents?
- handle the time demands of the job?

Tschannen-Moran and Gareis (2004) reported three subscales with six items in each, which they named: Principals’ Sense of Efficacy for Instruction, Principals’ Sense of Efficacy for Management, and Principals’ Sense of Efficacy for Moral Leadership. The factor loadings for these three factors ranged from .42 to .82, and explained 60% of the variance in principals’ sense of efficacy. In addition to factor analysis, these researchers examined the construct validity by testing the correlation of the Principal Sense of Efficacy Scale with other known constructs to see if the anticipated relationships would emerge. As predicted, principals’ sense of efficacy was significantly negatively related to work alienation and positively correlated to both trust in teachers and trust in students and parents.

**Demographic variables.** In addition to the Principal Sense of Efficacy Scale, participants were asked to respond to questions about their gender, race, and years of experience as an administrator. Gender was coded as 1 = male and 2 = female. Race as coded as 1 = African-American, 2 = White, and 3 = Other.

**Preparation.** Participants were asked to rate the perceived quality of the principal preparation program on a five-point scale from “Lowest quality” to “Highest quality”. In addition, they were asked to assess the utility of their preparation programs on a four-point scale,
with anchors ranging from “Not useful at all” and “Somewhat useful” to “Very useful” and “Extremely useful.”

*Context variables.* Participants were asked the setting of their school (urban, suburban, or rural) and school level (elementary, middle, or high school). They were asked to estimate the proportion of students receiving free and reduced-price meals (FARM) in their schools. In addition, principals were asked to rate the availability of teaching materials and resources on a five-point scale from the “lowest level” to the “highest level,” as well as the quality of the facilities on a five-point scale from “lowest quality” to “highest quality.”

*Interpersonal support variables.* Principals were asked to rate the quality of the interpersonal support they received from significant individuals and groups within their schools and districts. These included support from the superintendent, central office, teachers, support staff, parents, and students. These were rated on a five-point scale, from “lowest quality” to “highest quality.” The alpha reliability of the set of six interpersonal support variables was .75.

*Satisfaction.* Finally, as a measure of satisfaction, participants were asked a single item: whether, if they had it to do over again, they would still become a principal, to which they responded "yes" or "no."

**Participants**

The participants of this study were 558 principals from public schools across Virginia. A total of 1925 surveys were mailed to all principals of public elementary, middle, and high schools in Virginia listed on the Department of Education website. After two weeks, postcards were mailed to the entire sample, either to thank participants for their responses or to remind prospective participants of the completion date. The achieved sample represents a 29% response rate. The sample was evenly divided between male and female participants (50% each).
large majority (86%) were white, with 13% African-American and 1% who identified as “Other”. This is substantially the same as a statewide study conducted two years prior to the current study in the same state in which 1543 principals responded. In that study, 49% of the principals were male, with the remaining 51% female; 83% were white, 16% African-American, and 1% Other. On the basis of that comparison, it was concluded that this sample was reasonably representative of principals in Virginia.

The participants led schools in a variety of settings. Approximately 18% of the principals reported leading urban schools, 39% suburban schools, and 43% led rural schools. The schools these principals led were diverse across levels, with 53% elementary principals, 21% middle schools and 23% high schools. The schools were mixed, as well, in the proportion of low-income students they served. Nearly a third of the schools represented each the two lowest categories of low SES students: 0-20% FARM (31%) and 21-40% FARM (32%). The remaining schools were divided between the remaining categories 24% from 41-60% FARM; 10% between 61-80% FARM; and 3% 81-100% FARM.

**Data Analysis**

Means and standard deviations were calculated for the major variables under study. Next the relationship of principals’ sense of efficacy to each of the demographic and context variables and then the support variables were analyzed using bivariate correlational analysis. Spearman’s rho was used to examine the relationship between Principals’ Sense of Efficacy and gender, race, and whether one would choose to be a principal again. A hierarchical multiple regression was conducted in which the first set entered consisted of demographics (gender, race, and years of experience), the second set entered was preparation (ratings of the quality and utility of preparation), set three was context variables (school setting and level, proportion of students...
receiving free and reduced-price lunches, rating of resources support and the qualities of the school facilities), and set four involved the interpersonal support variables (support from the superintendent, central office, teachers, staff, parents, and students).

From a conceptual or theoretical stance, we were interested in whether the variables of race and gender would be related to principals’ self-efficacy beliefs, perhaps because of the availability of similar models or whether impediments such as perceived racism or sexism would interfere with principals’ feelings of capability. Likewise, experience was of interest, although Bandura has suggested that self-efficacy beliefs, once set, would be relatively stable. We did expect that the quality and utility of preparation as well as elements of the school context would be related to principals’ sense of efficacy. We also expected that interpersonal support variables would be related to principals’ self-efficacy beliefs.

Results

The obtained reliability for the Principals’ Sense of Efficacy Scale for this sample, using Cronbach’s alpha of internal consistency with all 18 items in the analysis, was .91. Each of the three subscales reported by Tschannen-Moran and Gareis (2004) also had high reliability, with .86 for Principals’ Sense of Efficacy for Instruction, .87 for Principals’ Sense of Efficacy for Management, and .83 for Principals’ Sense of Efficacy for Moral Leadership. We found the three subscales to be moderately correlated with one another (r = .48 - .58). Second-order factor analysis using principal axis factor analysis demonstrated that they loaded together in one strong factor with an eigenvalue of 2.10 that explained 70% of the variance in principals’ self-efficacy beliefs. Consequently, the full-scale was used in all of the subsequent analyses reported in this study.
Means and standard deviations for the major variables under study are reported in Table 1. The principals were generally favorable in their ratings of their own sense of efficacy, their preparation, and the material and interpersonal supports they encountered, although there was sufficient variability to avoid concerns about a restriction of range or ceiling effects.

Insert Table 1 about here.

Demographic Variables

Three personal demographic variables were considered in the study: gender, race, and years of administrative experience. These variables were largely insignificant in their correlation with principal sense of efficacy, a finding that is similar to what has been found in previous research (Dimmock & Hattie, 1996). Race barely made the cut to be considered slightly related (rho = .09, p < .05), while years of administrative experience was uncorrelated to principals’ sense of efficacy (r = .07). Gender likewise showed no significant correlation (rho = -.03).

Preparation

A second set of variables targeted principal preparation for the position, with a specific focus on principals’ ratings of the quality and utility of their formal training. Among the demographic and context variables, these two variables had the strongest relationship to principals’ sense of efficacy, with the perceived quality of preparation (r = .28, p < .01) and utility of their formal training (r = .31, p < .01) positively related to principals’ self-efficacy beliefs.

Context

Several dimensions of the respondents’ school contexts were also considered, including the school setting (i.e., urban, suburban, or rural), school level, socio-economic status (SES) of
the student body of each principal’s school, resource support, and facilities. No significant correlation was found between school setting, school level, or student body SES and principals’ sense of efficacy. The availability of teaching materials and financial resources was the strongest context variable in relation to principals’ sense of self-efficacy ($r = .36$, $p<.01$). The quality of the school facilities was not as strongly related to principals’ sense of efficacy ($r = .21$, $p<.01$), but nonetheless suggests that the way principals view the quality of their school facilities is related to the way they view their own efficacy as principals. See Table 2.

Insert Table 2 about here.

*Interpersonal Support*

We investigated the interpersonal support from six sources that principals are likely to expect and encounter in their positions. Our aim was to determine the relationship of the following six potential sources of support with principals’ sense of efficacy:

- superintendent support
- central office support
- teacher support
- staff support
- parent support
- student support.

Support of the superintendent and support of the central office proved to be similar in their relationship to principals’ sense of efficacy, with correlations of .24 and .24, respectively. Furthermore, the two factors were themselves correlated ($r = .55$), suggesting some association of these administrative supports in the perceptions and experiences of principals.

The support of the personnel in the school with whom principals work on a daily basis, teachers and staff, were also examined. Principals’ sense of self-efficacy was strongly correlated
with teacher support \((r = .36)\). In fact, teacher support was the most strongly correlated variable among all six support variables identified in this study. Staff support also demonstrated a relationship with principals’ self-efficacy \((r = .28)\). While the correlation was not as strong as that for teacher support, the two evidently interact. Teacher support and staff support shared a correlation of .56 suggesting that principals were likely to perceive teacher support and staff support in a similar way.

In addition, we examined the support of the two primary client groups of a school principal: parents and students. Both parent support \((r = .32)\) and student support \((r = .31)\) were positively correlated with principals’ sense of efficacy. Moreover, the two variables were correlated with each other \((r = .64)\), indicating that where principals perceive support from parents they are likely to perceive support from students. (See Table 3.)

Regression Analysis

Next, we sought to explore the relative influence of each of the variables in relation to the entire set of variables. To do this we employed multiple regression with four sets of variables entered in hierarchical fashion. In the first set, demographic variables (gender, race, and years of experience) were not found to be significantly related to principals’ sense of efficacy. With the addition of the second set of variable, the ratings of the quality and utility of their principal preparation, the equation became statistically significant, explaining 12% of the variance in principals’ sense of efficacy. Adding the context variables (school setting and level, proportion of students receiving free and reduced price lunches, rating of resources support, and the
qualities of the school facilities) the amount of variance explained increased to 21%. The addition of the set of variables assessing interpersonal support from the superintendent, central office, teachers, staff, parents, and students increased the amount of variance explained to 32%. Six variables were found to make an independent contribution to explaining variance in principals’ self-efficacy beliefs: gender, the usefulness of their preparation, the proportion of low-income students in their school, resource support, faculty support and support from the parents. (See Table 4.)

Insert Table 4 about here.

Satisfaction

A final question tapped respondents’ satisfaction with their career choice of the principalship. Participants were simply asked whether, given the chance to do it over again, they would still become a principal. The overwhelming majority, 90%, said that they would once again choose the principalship; 9% said they would not; and 2% indicated that they were not sure whether they would make the same choice again. Principals with a higher sense of efficacy were more likely than those principals with a lower sense of self-efficacy to say that they would (rho = .20, p <.01).

Discussion

Our examination of the relationship of personal and contextual factors to principals’ self-efficacy judgments revealed some interesting patterns. We found that the availability of sufficient resources does register when principals consider the level of challenge of the
leadership task they face and whether they consider themselves up to the challenge. They also note the level of interpersonal support from other adults in the system and even their perceived level of support from students.

**Demographics**

Demographic variables have typically not been strong predictors of the efficacy beliefs of educators. Indeed, demographic variables of the principals in this study suggested little or no significance in relation to their self-efficacy beliefs. In the bivariate correlations, we found no differences in efficacy beliefs based on gender and only a slight relationship based on race. In the regression analysis, however, gender emerged as a significant predictor of principals’ self-efficacy beliefs, with women expressing somewhat higher self-efficacy beliefs than men. Among teachers, some studies have found higher self-efficacy beliefs among women at the elementary level and higher self-efficacy beliefs among men at the secondary level, raising speculation that having positive role models similar to oneself to provide vicarious experiences would impact the self-efficacy beliefs of one gender over another. In our analysis, gender did not emerge as a significant independent predictor of PSE until the fourth stage, when the interpersonal support variables were added. It may be that women were more adept at enlisting interpersonal support and that this, then, contributed to an interaction between support and principals' sense of efficacy.

On an intuitive level, one might expect that experience would be related to self-efficacy beliefs, with a growing sense of capability emerging over years in the field. In addition, the theoretical underpinnings of self-efficacy beliefs suggest that they are based on principal’s ability to identify appropriate strategies or modify unsuccessful ones, skills that would presumably be enhanced over time. And yet, Bandura (1997) claimed that self-efficacy beliefs, once established,
would be relatively stable and that it would take a significant shock of some kind to provoke a reassessment. The finding in this study that experience was unrelated to PSE provides some evidence to this stability hypothesis, as we found no significant correlation between years of experience and principals' sense of efficacy.

*Professional Preparation*

The initial preparation of principals proved to be an important factor related to principals’ self-efficacy in this study. It is during the professional preparation that verbal persuasion as a source of self-efficacy is likely to come into play. The ratings of quality of preparation and the utility of the preparations were, not surprisingly, strongly correlated. When both were included in the regression equation together, it was the rating of the utility of the preparation that made the independent contribution to explaining principal’s self-efficacy beliefs. It may be that those principals who attended preparation programs that assisted them in seeing the utility of the theories they were encountering as part of their training emerged from those programs with the strongest self-efficacy beliefs. But it is also plausible that those with the greatest capability were most able to see the utility in applying what they had learned. In either case, our findings suggest that the perceived quality and utility of formal, professional preparation for school leadership significantly contribute to principals' sense of self-efficacy.

*Context*

It is interesting that school setting and level were unrelated to principals’ sense of efficacy and that even the SES of the student population was not related to efficacy beliefs in the bivariate correlations. Conventional wisdom assumes that low-income environments are more challenging than those with a higher proportion of middle- and upper-income families and, consequently, that these difficult contexts would lead to a lower sense of efficacy. Likewise, it
might seem that urban settings or high schools would provide greater leadership challenges. Yet, in this study, the efficacy beliefs of principals in these environments did not differ from those of principals in other contexts. The proportion of students receiving free and reduced-priced meals did, however, make an independent contribution in the regression analysis. This may suggest that it is the interaction of student SES with other factors such as insufficient resources that ultimately impacts principals’ sense of efficacy.

Resource support was significantly related to principals’ assessment of their capability, both in the bivariate correlations and in the regression equation. The quality of the facilities was related in the bivariate correlations, but perhaps because of its correlation to resource support, it did not make a significant contribution to explaining PSE in the regression equation. While it is unclear from our study why this pattern emerged, there may be some practical interplays at work. The quality and conditions of facilities, for instance, may be perceived by principals as impacting their ability to be effective; however, facilities, especially the renovation and construction of facilities, are easily viewed as being beyond the scope and control of building principals. Thus, such "big ticket" budget items may be viewed by many principals as simply beyond their domain of daily responsibility. On the other hand, our inquiry into the role of resource support in principals' sense of efficacy focused more specifically on the availability of instructional materials, which is clearly within the purview of school principals. Thus, the regular and direct involvement of school principals in working to determine and obtain instructional resources may serve as a series of mastery experiences, which Bandura (1997) identified as a primary means of developing a sense of efficacy.

*Interpersonal Support*
The level of interpersonal support experienced by principals contributed to differences in their self-efficacy beliefs. It may be that the availability of high levels of support is what has helped these principals to be effective and to see themselves as capable school leaders. But it may also be that those principals with the strongest self-efficacy were those who were most successful at garnering the support of important constituents such as the superintendent, teachers, and parents. Through their effort and persistence, as well as their own interpersonal skill, it may be that these principals seek out and win the assistance and support of important others in their professional lives.

While the old adage says that it’s lonely at the top, the school principals in this sample evidently do not perceive themselves as being entirely alone. Indeed, high self-efficacy principals tended to indicate that their perceptions of their own effectiveness are, in part, predicated on the support they receive from the superintendent and the central office. Thus, it is important that staff and leaders in central office understand that principals in the buildings view their support as critical to their own effectiveness. What’s more, principals tend to associate their impressions of superintendent support with their impressions of central office support, indicating that the tone set by the superintendent in terms of supportiveness of principals may be emulated by the central office staff. Superintendents similarly should be aware that principals' perceived support of central office personnel--whether good or bad--may be associated with their perceptions of support from the superintendent, as well.

Interestingly, the most strongly related support variable in principals’ self-efficacy beliefs in this study was the perceived support of teachers themselves. A similar dynamic is at play among those individuals designated by title to support the educational program of a school, that is, the “support staff.” We found a positive correlation between principals’ sense of efficacy and
the perceived support of both the professional faculty and the non-professional staff in the school. Principals who are supported by their teachers and support staff are more likely to have a robust sense of efficacy, and conversely, principals with strong self-efficacy beliefs seem to be more successful at winning the support of their teachers and staffs, illustrating Bandura's (1997) theory of reciprocal causation.

It makes intuitive sense that self-efficacy beliefs of principals are correlated with the many colleagues with whom principals work to serve the educational mission, namely the superintendent, central office personnel, teachers, and support staff. Perhaps more surprising, though, is the finding that principals’ sense of efficacy is also correlated with the perceived support of the clients they are charged to serve, namely, students and parents. Students are at once the “consumers” and the “products” of the educational enterprise. Acknowledging that students are integral to a principal’s perceived effectiveness is a realistic appraisal that students themselves must be vested in the purposes and means of public education in order for the aims to be achieved. The support of parents was also at play in principals’ perceptions of their capability. Parent and student support were closely associated with each other, suggesting that when parents are engaged in schools as supportive, constructive partners, students are likely to be similarly engaged. And when principals have not earned the support of students, they are unlikely to win the support of parents.

All of the interpersonal support variables were positively correlated with principals’ sense of efficacy. This web of interrelated support variables, cutting across administrative ranks, personnel within the building, and school clients, suggests a complex and interwoven system associated with principal self-efficacy. “Top-down” support matters, whether in the form of financial resources and materials, buildings, superintendent support, or central office support.
But what seems to matter even more, as revealed by the regression analysis, is the “bottom-up” support of those whom the principal leads--that is, teachers and support staff--and whom the principal serves--that is, students and parents.

**Self-efficacy and Satisfaction**

A final finding also merits attention. The vast majority of participants in this study indicated that given the opportunity to do it again, they would still choose the principalship. Only 9% indicated that they would not. Principals’ sense of efficacy was only slightly related to this choice to do it again. This small correlation may well be due to the small number that expressed sufficient dissatisfaction as to reconsider their career choices if they were to have the opportunity. But it also indicates that there are likely other factors in play in principals’ satisfaction with their careers. Even principals who do not perceive themselves to be particularly capable in the areas of instruction, management, and moral leadership may still express a great deal of satisfaction with the job. And, conversely, even principals who consider themselves to be very capable may be concerned about the stresses, time demands, and salary constraints, such that the personal costs of the position are simply not worth the professional successes.

**Implications**

It is of theoretical and practical importance to begin to understand the sources of information that principals tap when making judgments about their efficacy as school leaders. Verbal persuasion, one of the four sources of self-efficacy beliefs outlined by Bandura (1997), in the form of principal preparation and in the interpersonal support of important constituents in the principals’ professional life, seemed to be among the most potent variables examined in this
study. Thus, professional preparation and on-going communication among school and district-level colleagues and clients seem to play important roles in principals' sense of efficacy.

Principals’ efficacy beliefs, in turn, influence the level of effort and persistence that is expended in their daily work, as well as their resilience in the face of setbacks. It is not enough to hire and retain the most capable principals; they must also believe they can successfully meet the challenges of the task at hand. Information about the factors that contribute to principals’ sense of efficacy can assist in improving principal preparation programs, and in developing and refining effective induction and mentoring programs for school principals. This information may also help when identifying candidates for principal preparation and, when providing professional development, to foster greater levels of principal self-efficacy.

Evidently, the perceived quality of preparation and training makes a difference in principals’ sense of efficacy, suggesting that the design, content, and continuous improvement of educational leadership programs is important to the profession. However, there are questions that our study did not answer with regard to preparation programs. For example, on what criteria did principals judge the quality of their preparation? On what criteria did they judge utility? It will be important for future research to explore the elements of professional preparation that principals regard to be most important in bolstering their perceived capabilities. Enhancing leadership self-efficacy should be an important objective for those responsible for improving the quality of leadership in school.

Social cognitive theory provides practical guidance for the preparation and professional development of school principals in order to equip them with the capabilities and a resilient sense of efficacy that will enable them to enhance both their well-being and their accomplishments. While mastery experiences are the most powerful efficacy change forces, they
Cultivating Principals’ Sense of Efficacy

may be the most difficult to deliver to neophyte school leaders. Bandura (2000) proposes three specific approaches for developing self-efficacy in managers. The first is guided mastery, which includes instructive modeling to acquire a skill or competency, guided skill perfection, and then transfer of the training back to the job context to ensure self-directed leadership success. Second, is cognitive mastery modeling in order for novice leaders to learn thinking skills and how to apply them by observing the decision rules and reasoning strategies used by successful models as they arrive at solutions to problems and make effective decisions. The third strategy is self-regulatory competences using self-monitoring, self-efficacy appraisal, personal goal-setting and the use of self-motivation incentives. Each of these elements can be structured into initial principal preparation coursework, built upon during the internship, and expanded during induction and mentoring programs as principals begin their leadership careers.

Superintendents can attend to environmental conditions that are likely to enhance efficacy beliefs. Central office personnel should take opportunities to provide vicarious learning experiences and social persuasion to build the efficacy beliefs of their principals. Training program structures should include mastery experiences, role plays, and positive persuasive messages to enhance novice principals’ task-specific efficacy perceptions (Gist & Mitchell, 1992). Thoughtfully designed staff development activities and action research projects are ways school leaders might provide efficacy-building experiences. Because efficacy beliefs are impacted by modeling, Lyons and Murphy (1994) proposed that principals should be provided with the opportunity to observe effective principals practicing instructional leadership, and they should be coached by colleagues and supervisors as they acquire new skills and refine the practice of instructional leadership. Three aspects of the principals’ organizational and personal experiences found to relate to their developing sense of self-efficacy are clear performance
expectations, organizational and personal support, and positive role models (Osterman & Sullivan, 1996).

Of course, these recommendations represent a tenuous link between what we understand about the construct of self-efficacy, about how it can be developed, and about the findings from our own study that illuminate the roles that professional preparation and on-going support play in relation to principals' sense of efficacy. Therefore, the results of this study invite further exploration into the antecedents of principals’ efficacy beliefs. More research into important sources of efficacy information that would tap the relative weight of vicarious experiences, verbal persuasion, mastery experiences, and physiological arousal would be of great value as we attempt to learn how to better train and equip principals for their complex tasks. Longitudinal designs that would allow researchers to observe the periods of flux and stability of efficacy beliefs at different career stages would also be of value. This might begin with an assessment of prospective principal’s self-efficacy as teachers and follow the ebb and flow of self-efficacy beliefs throughout the preparation program and into the early years on the job. Monitoring the self-efficacy beliefs of professors, field supervisors, mentors, and the first principal under which a novice school leader works to assess the impact on the developing beliefs of the new administrator would be very useful.

Despite our deepening understanding of the spectrum of constructive to unconstructive patterns of behavior associated with varying degrees of self-efficacy, still less is currently understood about the relationship between principals’ sense of efficacy and student achievement. With the role of the school principal being increasingly defined in terms of academic achievement and "success" as measured by high-stakes assessment results, one’s sense of efficacy may play a critical role in meeting the expectations and demands of the position. Just as
teachers' self-efficacy beliefs have been tied to student self-efficacy (Anderson, Greene, & Loewen, 1988) and to student achievement (Ashton & Webb, 1986; Moore & Esselman, 1992; Ross, 1992), it may be that principals’ with strong self-efficacy beliefs are better able to cultivate higher self-efficacy beliefs in teachers, resulting in stronger motivation and improved performance from teachers and, indirectly, from students.

Research in the area of collective efficacy beliefs also provides some grounding for the potential correlation between the self-efficacy beliefs of the principal and student achievement. Collective efficacy beliefs are the broadly shared perceptions of the teachers in a school that their combined capabilities can positively impact student outcomes. Collective teacher efficacy has been related to student achievement in schools (Goddard, Hoy, & Hoy, 2000, 2004; Tschannen-Moran & Barr, 2004). Thus, if the self-efficacy beliefs of a principal lead to stronger motivation and improved leadership functioning, the collective efficacy beliefs of the faculty may similarly be enhanced, potentially leading to improved student outcomes.

Principals’ judgment of their capability to impact student outcomes has been demonstrated to affect their behavior and attitudes. We need to know more about how these beliefs are formulated and sustained throughout principals' careers. This study demonstrated that preparation, resources, and interpersonal support from important adults and even students in a school context plays a role in cultivating principals’ belief that they can make a difference.
References


<table>
<thead>
<tr>
<th>Variable</th>
<th>Response Set</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Sense of Efficacy (PSE)</td>
<td>9</td>
<td>6.99</td>
<td>.90</td>
</tr>
<tr>
<td>Quality of Preparation</td>
<td>5</td>
<td>4.21</td>
<td>.70</td>
</tr>
<tr>
<td>Usefulness of Preparation</td>
<td>4</td>
<td>3.80</td>
<td>.77</td>
</tr>
<tr>
<td>Resource Support</td>
<td>5</td>
<td>4.01</td>
<td>.82</td>
</tr>
<tr>
<td>Quality of Facilities</td>
<td>5</td>
<td>3.88</td>
<td>.90</td>
</tr>
<tr>
<td>Superintendent Support</td>
<td>5</td>
<td>4.21</td>
<td>.79</td>
</tr>
<tr>
<td>Central Office Support</td>
<td>5</td>
<td>4.12</td>
<td>.84</td>
</tr>
<tr>
<td>Faculty Support</td>
<td>5</td>
<td>4.35</td>
<td>.60</td>
</tr>
<tr>
<td>Staff Support</td>
<td>5</td>
<td>4.36</td>
<td>.57</td>
</tr>
<tr>
<td>Parent Support</td>
<td>5</td>
<td>3.86</td>
<td>.78</td>
</tr>
<tr>
<td>Student Support</td>
<td>5</td>
<td>4.19</td>
<td>.60</td>
</tr>
</tbody>
</table>
Table 2. Correlations between Principal Sense of Efficacy and Demographic, Preparation, and Context Variables.

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PSES</td>
<td>.28**</td>
<td>.31**</td>
<td>-.01</td>
<td>.00</td>
<td>.00</td>
<td>.36**</td>
<td>.21**</td>
</tr>
<tr>
<td>2. Quality of Prep</td>
<td>.58**</td>
<td>-.04</td>
<td>.04</td>
<td>-.06</td>
<td>.19**</td>
<td>.09*</td>
<td></td>
</tr>
<tr>
<td>3. Utility of Prep</td>
<td>.03</td>
<td>.07</td>
<td>-.08</td>
<td>.22**</td>
<td>.10*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. School Setting</td>
<td>.04</td>
<td>.32**</td>
<td>.23**</td>
<td>-.13**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. School Level</td>
<td>-.01</td>
<td>.00</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. School SES</td>
<td>-.08</td>
<td>-.19**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Resource Support</td>
<td></td>
<td>.36**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N = 558  
* p < .05  
** p < .01
Table 3. *Correlations between Principal Sense of Efficacy and Interpersonal Support Variables.*

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PSES</td>
<td>.24**</td>
<td>.24**</td>
<td>.36**</td>
<td>.28**</td>
<td>.32**</td>
<td>.31**</td>
</tr>
<tr>
<td>2. Support of Superintendent</td>
<td>.55**</td>
<td>.26**</td>
<td>.24**</td>
<td>.22**</td>
<td>.21**</td>
<td></td>
</tr>
<tr>
<td>3. Support of Central Office</td>
<td>.28**</td>
<td>.33**</td>
<td>.28**</td>
<td>.22**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Support of Teachers</td>
<td></td>
<td>.56**</td>
<td>.30**</td>
<td>.35**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Support of Support Staff</td>
<td></td>
<td>.33**</td>
<td>.39**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Support of Parents</td>
<td></td>
<td></td>
<td>.64**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Support of Students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N = 558

* p < .05
** p < .01
Table 4. *Regression Analysis of Principals’ Sense of Efficacy, Demographic, Preparation, Context Variables, and Interpersonal Support*

<table>
<thead>
<tr>
<th></th>
<th>$R^2$</th>
<th>Adj $R^2$</th>
<th>S.E.</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set 1 (Demographics)</td>
<td>.01</td>
<td>.01</td>
<td>.89</td>
<td>2.07</td>
<td>.104</td>
</tr>
<tr>
<td>Set 2 (Preparation)</td>
<td>.12</td>
<td>.11</td>
<td>.85</td>
<td>14.12</td>
<td>.000</td>
</tr>
<tr>
<td>Set 3 (Context)</td>
<td>.21</td>
<td>.19</td>
<td>.81</td>
<td>13.49</td>
<td>.000</td>
</tr>
<tr>
<td>Set 4 (Interpersonal Support)</td>
<td>.32</td>
<td>.30</td>
<td>.75</td>
<td>15.10</td>
<td>.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (Set 1)</td>
<td>-.09</td>
<td>-2.31</td>
<td>.02</td>
</tr>
<tr>
<td>Usefulness of Preparation (Set 2)</td>
<td>.16</td>
<td>3.55</td>
<td>.00</td>
</tr>
<tr>
<td>School SES (Set 3)</td>
<td>.09</td>
<td>2.05</td>
<td>.04</td>
</tr>
<tr>
<td>Resource Support (Set 3)</td>
<td>.21</td>
<td>4.27</td>
<td>.00</td>
</tr>
<tr>
<td>Faculty Support (Set 4)</td>
<td>.19</td>
<td>4.06</td>
<td>.00</td>
</tr>
<tr>
<td>Parent Support (Set 4)</td>
<td>.21</td>
<td>4.03</td>
<td>.00</td>
</tr>
</tbody>
</table>

1 The authors hold the copyright to this instrument; however, we permit its use in scholarly research and for non-profit educational purposes.