

Review

Leadership Effects on Student Learning Mediated by Teacher Emotions

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Abstract: School leaders' influence on student achievement is largely indirect. Using systematic review techniques, this paper assesses the impact that leaders have on their students when they focus their improvement efforts on those teacher emotions or dispositions known to have direct effects on teaching and learning in the classroom. Building on an earlier conceptions of how leadership influences student learning and based on a review of research over the last 25 years, this study identifies four distinct teacher emotions which have significant effects on student learning—collective teacher efficacy, teacher commitment, teacher trust in others, and Organizational Citizenship Behavior. This review also describes leadership practices likely to foster productive teacher emotions, most such practices reflecting a transformational approach to leadership.

Keywords: school leadership; indirect influence; critical paths; student learning

1. Introduction

Our goal in this paper is to describe and justify one promising, evidence-based, focus for the improvement work of school leaders. This focus is premised on the assumption that most of the

influence of school leadership on student learning is indirect, that is, mediated by a wide array of school and classroom conditions with direct effects on such learning [1–7]. This paper extends earlier work conceptualizing school leaders' influence as "traveling" along four "paths" [8], each path populated by a related set of school and/or classroom variables with the potential to influence student learning. By way of illustration, teachers' instructional practices are found on the Rational Path; teacher trust in others is included on the Emotional Path; collaborative structures are located on the Organizational Path; and the Family path includes, among other variables, parents' expectations for their child's success at school.

The job of the leader, according to this conception of school leader influence, is to strategically select and improve the status of variables, on one or more of the paths, not yet sufficiently developed to realize their potential impact on student learning. Teacher trust, for example, is known to make significant contributions to student learning but only when such trust among teachers is high [9]. So a principal in a "low trust" school might chose to improve the level of teacher trust as one means of improving student learning; teacher trust is a variable located on what is described below as the "Emotional Path" linking leaders' influence to student learning.

Concerned only with the Emotional Path, this paper reviews evidence about the effects on student achievement of four teacher emotions or dispositions and those leadership practices likely to help improve the condition of each. While evidence indicates that leaders' attention to variables on all four paths can improve student learning (e.g., [8,10]), teacher emotions are especially critical since they "seep across paths" thus shaping leaders' success in improving most variables on the other three paths [11]. A narrative review by the second author [11] of more than 90 empirical studies of teacher emotions and their consequences for classroom practice and student learning pointed to a large handful of teacher emotions with significant effects on teaching and learning. These teacher emotions included both individual and collective teacher efficacy, job satisfaction, organizational commitment, morale, stress/burnout, engagement in the school or profession, and teacher trust in colleagues, parents, and students. Based on our series of meta-analyses and effect size averaging, the emotions selected and addressed in the paper include teacher trust in others, teacher commitment, teacher collective efficacy and Organizational Citizenship Behavior or OCB (reasons for classifying OCB as an emotion appear below).

1.1. Teacher Trust in Others

Common across the many different definitions of trust, either explicitly or implicitly, is one party's willingness to be vulnerable to another party based on the belief that the latter party is (a) competent, (b) reliable, (c) open, and (d) concerned [12]. Tschannen-Moran and Hoy [9] claim that the two overarching elements of trust that must be established in schools are: teachers' trust in the principal (teachers have confidence in the principal keeping his or her word and acting in the best interest of the teachers) and teachers' trust in colleagues (teachers believe that teachers can depend on each other in difficult situations and that teachers can rely on the integrity of their colleagues). In addition, Goddard [13] also indicates that trusting teacher-parent, and teacher-student relationships foster norms and social relations that help move students toward academic success.

Faculty trust in colleagues, the principal, students, and parents has been linked to school effectiveness [9,14–16], positive school climate [17,18] and improved student achievement [8]; these associations remain significant even when socioeconomic status and other student demographic factors (prior achievement, school SES, race, and gender) are accounted for [14]. In addition, the significant correlations between student learning and academic press, teacher collective efficacy, and teacher professionalism point to the important role of trust in explaining how leadership influences student learning [18].

Bryk [19] points out that principals play an important role in developing, nurturing, and maintaining relational trust (trust in others) in schools. Principals establish respect and personal regard by recognizing and acknowledging the vulnerabilities of their staff. They build trusting relationships with teachers by listening to their needs and assisting as much as possible to reconcile those needs with a clear vision for the school. Collegial leadership practices (e.g., being friendly, supportive, and open) demonstrate trust in teachers' decision making abilities and provide support and constructive criticism to teachers [9].

Parents are encouraged to become partners in the educational process when principals create a space for them and when principals' interactions with parents are perceived by parents to be reliable, open, and scrupulously honest. If parents fail to respond, school personnel need to respond with understanding rather than disdain in order to foster mutual respect and trustworthiness [20].

A stable community of students directly affects the relational trust between teachers and parents. When there is high turnover in the student population, teachers find it difficult to maintain positive relationships with parents. Similarly, parents who are new to a school community often find it difficult to build new relationships and may become distrustful as a result [19]. Principals should take extra measures to respond to an unstable community.

1.2. Teacher Commitment

In the last three decades, various dimensions of teacher commitment have been extensively studied including commitment to teaching, to students, to the school organization, and to change. Commitment to teaching encompasses a handful of more specific objects of commitment such as exercising a craft, dedication to the teaching profession and to the subject specialty, enjoyment and quality of teaching, and professional development [20–23]. Commitment to students includes teachers' caring about students, making extra efforts to help them succeed academically, and fostering the social integration of students in the classroom [21,24]. Teachers who are committed to students believe in the value of life-long learning, build connections with them, and value their feedback, [24,25]. Organizational commitment has been conceptualized and measured as an individual's strong belief in the organization, identification and involvement in the organization, and a strong desire to remain a part of the organization [26–28]. Commitment to change includes elements of motivation, a more fundamental psychological state [26]; motivational processes are qualities of a person oriented toward the future and aimed at helping the person to evaluate the need for change or action [26].

Teacher commitment to teaching, students and schools, (but not commitment to change) all positively contribute to student learning both independently and collectively [29–33]. The “ingredients” of teacher commitment, such as teachers' feelings/emotions, attitudes, capacity, values,

beliefs, motivations, overt commitment behaviours and sincerity (or insincerity) [34], are positively associated with successful learning [35,36], the quality of teachers' instruction [31,37], student moral growth [38], and students' academic achievements [32,39]. The majority of studies examining teacher commitment and student outcomes are qualitative.

A leader's values, motives, personality, understanding and attitudes play a role in influencing teacher commitment [34]. If a teacher likes the leader, has a similar value orientation and agrees with or accepts the leader's motives, he or she is likely to be influenced positively by that leader. When a teacher understands a leader's background experiences, he or she is more inclined to accept the leader's influence [34]. Principals' authenticity (the degree of consistency between words and actions), significantly influences teacher commitment. A good relationship increases teacher enjoyment and heightens the teacher's desire to make extra effort and to remain a part of the school team, while a negative relationship decreases the teacher's commitment to school [40].

Holistic leadership (characterized by supportive relationships, participation in the school's shared governance, a culture of collaboration, connectedness and commitment to community) [41] also contributes positively to both teacher commitment, and student learning. School leaders can positively influence teacher commitment by fostering shared governance and a culture of collaboration [41], helping to develop professional learning communities [34,42], implementing School Based Management (SBM) [24], providing collaborative professional development activities [43], and encouraging participatory decision-making [44].

1.3. Teacher Collective Efficacy

Collective Teacher Efficacy is the level of confidence a group exudes in its capacity to organize and execute the tasks required to reach desired goals [45,46]. Correlations between measures of CTE and student learning range from 0.38 to 0.99, with an average r of 0.61 based on the effect size averaging of six studies [47–52]. For example, Goddard and his colleagues' study [53] showed that collective teacher efficacy was a significant predictor of elementary student achievement in both mathematics and reading with the effects of CTE larger than those of SES. This relationship was moderated by the ethnicity of students. For example, the strongest correlations are associated with Caucasian students followed by African American and Hispanic students [49].

Evidence demonstrating the significant positive relationship between transformational leadership and collective teacher efficacy has been provided by Ross and Gray [54] using evidence from Canadian elementary schools, Armstrong-Coppins using evidence from mid-western US urban secondary schools and Hipp and Leithwood (Hipp 1995 & Leithwood 1994, cited in [55]) using evidence from mixed samples of US and Canadian schools.

1.4. Organizational Citizenship Behavior (OCB)

Organizational Citizenship Behavior (OCB) refers to individual behavior that is discretionary,¹ not directly or explicitly recognized by the formal reward system, and that, in the aggregate, promotes the

¹ Discretionary means that the behavior is not an enforceable or contractual requirement of the role or the job description. The behavior is a matter of personal choice [56].

effective functioning of the organization. While OCB is overtly about behavior not emotion, it is included in this analysis because of its' conceptual relationship to commitment. Indeed, OCBs seem likely to be at least one set of explicit manifestations of organizational commitment.

Organ [56] and Podsakoff and his colleagues [57] have proposed five types of OCBs that improve the work environment: Altruism, Conscientiousness, Sportsmanship, Courtesy, and Civic Virtue. In schools, however, they converge into one dimension [58].

The small number of empirical studies about the impact of OCB on student learning report a significant positive correlation between the OCB of faculty and student achievement in both reading and mathematics (e.g., $r = 0.30$ and 0.34 in [59]), the same magnitude of relationship as between teacher's OCB and students' socio-economic status (SES). Being flexible, nurturing informal, encouraging novel solutions to problems, and limiting the use of formal organizational procedures are considered best practices for cultivating teachers' OCB in schools. Principals who focus on enforcing the rules and regulations will not be successful in motivating teachers to "go the extra mile". While formality breeds rule-oriented behavior and rigidity, modeling, informal praise, and supportiveness are all effective leadership practices.

2. Methods

In theorizing the "indirect influence" of school leadership, most empirical studies to date have examined either the direct impact of leadership on student learning or the impact of a mediator on student learning instead of both at the same time. Even large-scale studies using more sophisticated statistical modelling to examine mediating effects have only been able to enter several variables into their models at the same time because of lack of power and other statistical limits. This meta-analysis, along with an innovative effect size summation method, was able to compare the effectiveness of multiple "critical paths" between leadership and student learning and so explored propositions unable to be addressed by single studies.

Three methods were used in this study: standard meta-analysis, narrative review, and effect size summation and averaging. Standard meta-analysis techniques were used to assess the magnitude of school leadership's impact on each of the path variables and the impact of each of the path variables on student learning. Narrative review methods were used to identify school leadership practices effective in improving the condition of each of the path variables, and to identify and describe the key variables populating the Emotional Path. Effect size summation and averaging techniques were used to calculate an "effectiveness" or "power" index for leadership practices effective in influencing each of the four Emotional Path variables.

Since narrative review methods are well-known to most scholars, this section is limited to a description of the meta-analytic review techniques used in this review. Meta-analysis is a systematic set of methods for synthesizing the results of empirical studies. Compared with traditional qualitative review methods, meta-analytic procedures display the landscape of a research domain, keep statistical significance in perspective, minimize wasted data, analyze the distribution of research results, ask focused research questions, and find moderator variables [60,61]. Despite considerable variation in execution, scholars generally agree that the basic procedures involved in meta-analysis include:

- (1) An exhaustive search for related literature & the selection of a body of studies to be analyzed using appropriate inclusion criteria;
- (2) Systematic coding of the characteristics of studies, effect sizes and related statistics;
- (3) Calculation of the mean effect size;
- (4) Conducting homogeneity and heterogeneity analysis of the effect size distribution variances and moderators testing.

These are the major steps that were used to conduct the series of meta-analyses reported in this paper.² Pearson correlation coefficient r is the most suitable type of effect size for meta-analyzing results of studies that examine correlational relationships [60] This study focused on correlational relationship, (*i.e.*, To what extent do school leaders influence teachers' inner states and to what extent do these inner states influence student learning outcomes?). As well, most of the studies involved in meta-analytic calculations report correlational coefficients r s. Thus the use of r s as the effect sizes reduces variances in effect size distributions. Sample sizes of the studies were coded for calculating inverse variance weight ω '. This value is required to calculate the weighted mean of effect sizes as a way to eliminate sampling error [62]).

If various statistics other than Pearson r were reported by the original studies, such as t -test or ANOVA, then ES r 's were calculated based on the conversion formulae provided by [63] when the related statistics reported by the original studies permitted. Fisher z transformations were conducted to adjust the effect sizes. The achieved sample of schools was used as the sample size for each study. Weighted means [62] were calculated to reduce sampling error. Internal and external validity was enhanced by exhaustive, appropriate, inclusion of sampled studies, studies using appropriate inclusion criteria, systematic coding of study characteristics and effect sizes, calculating mean effect size, and reducing publication bias to a minimum by including both published and unpublished studies. Macros for SPSS written by Wilson [64] were used to perform meta-correlation computations. Fixed effects models (FEM) were used.

To identify promising variables on the Emotional Path, we first identified a list of variables that significantly contribute to student learning and estimated³ the extent of this contribution. Then we identified among this list those variables that our meta-analytical review suggested are malleable to school leadership influence. Next we combined these two estimates. This combined magnitude of "extent of influence" is considered an index for the "criticalness" (or effectiveness or power) of the path from school leadership through the selected emotional variable to student learning. This effect size summation method provides an estimate of the "strength" of each path denoting the *indirect* influence of school leadership.

Meta-analysis is usually used to calculate direct effects between two variables. However, the addition of effect sizes denoting the impacts of significant producers of student learning and the impacts of school leadership on those significant producers provides a way to compare the relative

² Step 4 was not used in this study due to the limited numbers of the studies involved in the series of the meta-analyses in this review.

³ We estimate the "extent" by averaging effect sizes (*i.e.*, in most cases, the correlational coefficients reported by the studies). If the effect sizes reported are in different nature, we will convert them into correlational coefficients when possible.

power of the critical paths using meta-analysis with secondary data. Path analytical techniques or structural equation modeling are standard methods for examining indirect influence in original studies. However, these techniques require large data sets and place severe limits on the number of variables entered into the equation. The use of effect size summation in this study provides an alternative way to portray the *indirect* influence of school leadership revealing patterns only evident in accumulations of research.

3. Sources of Evidence, Search Criteria and Data Characteristics

The evidence included in this review was provided by two bodies of literature: studies that examined the relationship between teachers' emotions and student learning, and studies that examined the relationship between school leaders and teachers' emotions.

3.1. Evidence about Variables on the Emotional Path

To be included as a variable on the Emotional Path in this paper, a variable had to (a) contribute to student learning as measured by standardized tests, to a similar or greater extent than Socioeconomic Status (SES) and (b) be malleable by school leaders (there is a significant correlation existing between the two). The average correlation coefficient between SES and student learning is about 0.30 based on Hattie's 2009 meta-analysis. So previous evidence about variables selected for attention in this paper had to demonstrate a correlation of at least 0.30 with student achievement. Using this inclusion criterion, we searched through Scholar's Portal, which covers the major journals in the field of educational administration³ and data bases (e.g., Eric, ProQuest Dissertation) in the field of education. Additional sources of evidence were located through the reading of reference lists as we reviewed the initial studies. Variables were omitted that had weaker relationships with student learning and variables for which insufficient data were available to calculate effects on student learning or calculate how malleable they were to transformational leadership. This process identified the 12 studies involved in the calculation of effect sizes and an additional dozen studies that demonstrated a positive impact on student learning of selected variables but did not report sufficient data for calculating meta-correlations (e.g., only path regression coefficients were reported). These 12 studies were conducted mainly in North America in a range of rural, urban and suburban public schools (e.g., Kentucky; New Jersey; Ohio; Ontario) including elementary, middle and high schools.

A search for unpublished studies using the same inclusion criteria did not result in a significantly larger number of studies that would strengthen the robustness of the data from published studies. Thus only published studies were used in calculating the relationship between the path variables and student learning because published studies generally include information more acceptable for meta-analyses. The majority of studies reviewed were published in tier one journals in the field of educational leadership. The inclusion of only published evidence also helped to avoid potential errors arising from the inclusion of both published and unpublished evidence in one meta-analysis.

3.2. Evidence about Leadership Practices Relevant for Improving Variables on the Emotional Path

The source of evidence about leadership practices relevant for improving the variables on the Emotional Path was unpublished theses or dissertations on transformational school leadership (TSL). Studies about TSL were chosen because TSL (e.g., [65]) and instructional leadership (e.g., [66]) have been the two most frequently examined models of school leadership and the only two school leadership models that have been empirically measured and tested. Our review was restricted to the evidence about TSL because both motivating and inspiring colleagues are central to the conceptions of TSL. Furthermore, a dearth of published studies about TSL effects on emotional variables was insufficient for meta-analytic purposes, hence our use of unpublished dissertations. In spite of its rhetorical popularity, our search for studies examining the relationship between instructional leadership and teachers' emotional variables did not result in enough evidence for conducting a meta-analytical review.

Dissertations about TSL were reviewed not only to obtain sufficient data for meta-analysis, but also to reduce publication bias, to mine insights yet unreported in the published literature, and to provide evidence of a high quality standard. The biggest on-line database for doctoral dissertations, the Proquest Dissertation & Theses, was searched for all dissertations that inquired about transformational leadership in education completed between 1996 and 2014. In order to be selected for review, a thesis had to be based on quantitative data; use at least one of the following types of statistical analyses: correlation, regression, ANOVA and *t*-test; investigate the effects⁴ of TSL on at least one of the four emotions of interest in this paper; and be conducted in more than two schools. Thirty-two theses were identified that met all of these criteria. These studies were conducted primarily in North America, but also in Europe, Asia and Africa. Most were conducted in a range of rural, urban and suburban public schools. A small number took place in private schools, Catholic schools, or vocational schools.

To complement results calculated from this body of unpublished research, we also included results of relevant published studies accumulated over years of reading on related topics. For example, evidence identifying the most productive leadership practices to improve the status of each of the four teacher dispositions includes research on the effects of several different models of school leadership including, for example, instructional leadership (e.g., [66]), transformational leadership (e.g., [67]), and learner-centered leadership [68].

4. Results

4.1. Teacher Trust in Others

Based on the meta-analysis of three studies [68–70], we estimate the correlation between trust in others and student achievement to be 0.28 (weighted mean effect size *r*). Our meta-analysis of three studies [71–73] indicated that TSL practices had significant positive impacts on teachers' trust in others (weighted mean effect size, *r* = 0.37). Collegial, shared leadership is strongly related to faculty trust in the principal (Beta = 0.677, *p* < 0.01 in Tschannen-Moran & Hoy, 1998; *r* = 0.92 in [69]). The

⁴ While we use the phrase transformational leadership *effects* repeatedly throughout our descriptions of results, the relationships reported in this study are all correlational.

authenticity of principal behavior also makes a significant contribution to school climate with trust being a key component (Beta = 0.828, $p < 0.01$ in [9]). Thus, the power index of the path from leadership to student learning through teacher trust is 0.65 (0.37 + 0.28).

Teacher trust in principals is most influenced by leadership practices which teachers interpret as indicators of vulnerability, understanding, benevolence, competence, consistency and reliability, openness, respect and integrity [53,74]. For example, principals aware of their formal personnel evaluation responsibilities when drawing upon the creative expertise of their staffs to make positive changes in schools; they must not create a sense that taking a risk as a teacher—whether by sharing ideas or attempting innovative practices—will result in punitive outcomes for them. Principals can also earn the trust of their faculties by demonstrating good will and genuine concern for teachers' well-being through their interpersonal interactions and formal communications and decisions [75]. As well, principals can build teacher trust by fostering collaboration in schools. Collaboration and trust are reciprocal processes [75]. Collaboration requires time, energy, and sharing resources which in turn develops trust. The greater the collaboration between co-workers the greater the trust that is developed between individuals in a workplace. The principal's collaboration with teachers can also foster teachers' collaboration with parents, which in turn adds to teachers' trust in the principal [19].

Environmental press (positive pressure from the parents and community to change school policy) can make or break a school environment. Principals need to help teachers cope in such an environment through support and by maintaining the integrity of the school's programs. Principals build trust with their staff when they protect them from unreasonable community demands [9].

4.2. Teacher Commitment (TC)

Based on a meta-analysis of the two quantitative studies [76,77], the correlations between teacher commitment and students' achievement is estimated to be $r = 0.30$. Park's [78] two-level hierarchical linear modeling indicates a significant impact on student achievement of teacher commitment to the teaching profession ($b = 0.123$; $p < 0.05$).

A meta-analysis of 24 dissertations that examined the relationship between TSL and teachers' commitment indicated a strong association between the two (weighted mean $r = 0.61$) [79]. The addition of new evidence published between 2010 and 2014 [73,80,81] did not alter this result. Similar findings were found in studies that involved other leadership models [37,48,57–59]. Nicklaus' [54] for example, suggests that supervision can play a major role in increasing teachers' commitment (commitment to the core values of the school and the teaching profession), and other affective variables ($r = 0.30$); these variables, in turn, are linked directly to student achievement ($r = 0.30$). We estimate the power index for this path to be 0.92 (0.62 + 0.30).

The following leadership practices are reported to make positive contributions to teacher commitment, in general:

- support [20,82,83], or individual supports [26,67],
- collaborative supervision [82],
- principals' control and empowerment strategies [84],
- direction-setting (*i.e.*, building a shared vision and developing consensus about goals creating high performance expectations) [26],

- modeling [26,85],
- intellectual stimulation [26],
- encouragement of innovation and risk taking [40],
- consideration [83], and
- emphasis on teaching [86].

4.3. Collective Teacher Efficacy (CTE)

Our meta-analysis of three unpublished studies of TSL indicated a weighted mean r of 0.30 between principals' TSL and collective teacher efficacy [77,87,88]. Other published studies report larger impacts (e.g., $r = 0.45$ in [54]). For example, transformational school leadership made a small but practically important contribution to overall student achievement mediated by collective teacher efficacy and teacher commitment (for every 1.0 standard deviation increase in transformational leadership there was a 0.22 standard deviation increase in student achievement) [54]. Thus, the power index for the path linking leadership to student learning through CTE is 0.91 (0.61 + 0.30).

Particularly influential on CTE are four transformational leadership practices including:

- *Inspiring group purpose*: principals identify new opportunities for the school while developing (often collaboratively), articulate and inspire others with a vision of the future, promote cooperation and collaboration among staff towards common goals [67,68].
- *Providing individualized support*: School leaders listen and attend to individual teachers' opinions and needs, respect them, mentor or coach them or provide them with professional development opportunities, maintain an open door policy, develop positive relationships with teachers, provide resource and financial support, build trust, positively integrate teachers into the school organization and the implementation of school programs, and foster a sense of belonging and stability [69,79].
- *Providing appropriate models*: school leaders provide a model of high ethical behavior, instill pride, symbolize success, and walk the talk [68].
- *Holding high expectations*: Expecting a high level of professionalism from staff; holding high expectations for students; expecting staff to be effective innovators [26].

4.4. Organizational Citizenship Behavior (OCB)

Our meta-analysis of two studies [59,72], indicates that the correlation between teachers' OCB and student achievement is 0.41. Our meta-analysis of three additional studies [47,89,90] indicated that transformational leadership practices had a significant, close to large, impact on OCB (the weighted mean effect size, $r = 0.48$). The power index for the path from leadership to student achievement through OCB is 0.89 (0.48 + 0.41).

Teacher OCB is enhanced when principals:

- Encourage teachers to experiment and make important decisions about teaching and learning.
- Provide mentors to socialize new teachers who routinely demonstrate organizational citizenship behaviors.

- Protect teachers from administrative tasks viewed by teachers as a waste of their time—unnecessary meetings, too much paper work, silly rules, busy work, *etc.*
- Try not to make the teaching contract too specific or prescriptive in terms of what teachers can and cannot do. If the contract is specific, work with the union leadership to enhance flexibility.
- Develop high levels of academic success with teachers, and then support and help teachers achieve those goals [59].

In sum, this review of evidence about variables on the Emotional Path indicates that each of the four emotions has significant effects on student achievement and can be improved by specific leadership practices, practices generally associated with transformational approaches to leadership. All other things equal, does it matter which of the four variables leaders chose to act on? The power indices calculated as a means of answering this question indicate that leadership practices mediated by three of the four emotions have similar effects (ranging from 0.89 to 0.91). The power index for teacher trust was much lower, 0.65. However, the potential for leadership to influence the four variables differs considerably; teacher commitment and CTE appear to be more malleable to leadership influence than either OCB or teacher trust. This discrepancy at least raises an important question for school leaders planning their improvement efforts. The question is not just what emotions stand the greatest chance of improving student learning, it is also what emotions have the greatest chance of influencing?

The power indices reported in this paper can help principals prioritize *what* to do to improve student learning outcomes, taking into account school contexts and their own leadership skills. For example, if teachers' collective efficacy and commitment are low, the principal is a transformational school leader or wants to act upon the key TSL practices identified as being influential to the two emotions, then perhaps the principal working on these two emotions would be a high-yielding strategy to enhance student learning outcomes. If the principal is collegial and is skillful in or willing to enact distributed leadership, then perhaps focusing on teacher OCB would be a better strategy for the principal. Finally, even though trust doesn't have as much impact on student learning directly and is not as malleable to principal leadership as the other three variables, a principal, who is caring, considerate and good at restructuring schools and building relationships, can enhance trust by fostering collaboration and goal internalization in schools; these practices are likely to boost the confidence or efficacy teachers bring to their efforts to improve instruction in their classrooms [91].

We do not conclude from these results that teacher trust is unimportant for leaders' attention. Indeed it may underlie the development of several, or all three other emotions examined in this paper. But our results at least put the effects of teacher trust in a broader perspective than has been the case in some of the research on teacher trust; collective teacher efficacy, commitment and the manifestation of teachers' organizational commitment in the form of OCBs should be given as much attention or more in leaders' improvement initiatives.

5. Conclusions

Our review has several key limitations. One of these limitations is the small sample of the studies used in meta-correlation analyses; this limitation was addressed by including approximately 40 studies in the narrative review developed to compliment the meta-analytical review. The review also incorporated evidence from only one type of school leadership model to calculate the leadership

impacts on teacher emotions, and used only unpublished evidence for calculating school leadership impacts. Both of these limitations are a function of the available research and as such research accumulates in the future, the power indices calculated from it will be more accurate. In the past ten years, three major “universal” school leadership frameworks have been developed to describe.

Such limitations notwithstanding, this paper has described and provided partial justification for one promising, evidence-based, focus for leaders’ school improvement work. Premised on the assumption that school leaders’ influence on student learning is mostly indirect, the paper conceptualized school leaders’ influence as “traveling” along four “paths” [8], each path populated by a related set of school and/or classroom variables with the potential to influence student learning. Using systematic review techniques, the paper illustrated this approach to leading school improvement by attending in some depth to just one of the four paths, the Emotional Path.

Collective teacher efficacy, teacher commitment, Organizational Citizenship Behavior, and teacher trust in others are among the variables on the Emotional path with the greatest potential to improve student achievement. Evidence to support this claim was reviewed, along with evidence describing leadership practices likely to improve the condition of each of the four variables. The paper also described the relative potential effects of leaders’ attention to each of the four variables by calculating a “power index”. Results of this calculation suggest approximately similar potential effects of leaders’ working to improve three of the four emotional variables but somewhat weaker effects of a focus on teacher trust in others.

The implications of this research for practice are about how leaders frame their approaches to school improvement. Most approaches consist of processes in which leaders are to engage in either a linear or cyclical fashion—a series of steps or stages mostly rooted in the assumptions underlying basic needs assessment. Such approaches typically aim to be useful for any change and usually include goal setting, gap analysis, strategy development, strategy implementation, and assessment of progress. These approaches, while sometimes helpful to some school leaders, provide no guidance on which changes will make the most difference for students. In contrast, the approach to improving student learning outlined in this article focuses first on substance—the changes to be made that will benefit students most and that leaders can influence—and offers, second, substance-specific suggestions about how those changes can be made by leaders.

Underlying this approach is the importance of getting the substance of school improvement right first. Over many years of toiling in the school improvement field, we have also come to understand that leaders in real school circumstances almost never find what they need to do procedurally to advance their school improvement efforts conforms, even loosely, to the oft-prescribed steps or stages alluded to above (e.g., [73]). A change *plan* might be organized around those processes but the minute the plan begins to be implemented the complexity of what happens next is far too messy, interactive and context dependent to be captured (much less guided) by the intended flow of steps or stages of the typical school improvement “model”. So the value that our school-based approach to improving student learning adds to work of school leaders’ comes from providing evidence-based guidance on *what* to improve and flexibility on *how* to improve.

There are two especially pressing directions for future research arising from this paper. One of these directions is further systematic syntheses of evidence aimed at identifying the most powerful mediators for the attention of school leadership action. Such syntheses should go beyond, for example, the

impressive work of John Hattie [92] to include the potential for leadership action, as reflected in the power index developed for this study.

A second direction for future work is empirical testing of our four “path” constructs to determine if they are more than conceptually coherent categories. This research should include an examination of the overall factor structure of variables located conceptually on each path to assess either their independence or their sharing of underlying properties.

Conflicts of Interest

The authors declare no conflict of interest.

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