Chapter 7
Leadership Effects on Student Learning Mediated by Teacher Emotions

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This chapter assumes readers' familiarity with the overall framework for the book (see Chap. 1): in brief, school leadership influences student learning indirectly by improving key learning conditions on each of four "paths" – Rational, Emotional, Organizational and Family paths. 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. Leithwood et al. 2010; Sun and Leithwood 2015), teacher emotions are especially critical since they "seep across paths" thus shaping leaders' success in improving most variables on the other three paths.

A narrative review by the second author (Leithwood and Beatty 2008) 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 including both individual and collective teacher efficacy, job satisfaction, organizational commitment, morale, stress/burn-out, engagement in the school or profession, and teacher trust in colleagues, parents, and students. Based on a series of meta-analyses by us, teacher trust in others, teacher commitment, teacher collective efficacy and Organizational Citizenship Behavior or OCB (reasons for classifying OCB as an emotion appear below) were selected as most significant and the focus of this chapter.

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7.1 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 (Mishra 1996). Tschannen-Moran and Hoy (1998) 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's (2003) finding also indicate that when teacher-parent, and teacher-student relationships are characterized by trust, the academically supportive norms and social relations that result help move students toward academic success.

Faculty trust in colleagues, the principal, students and parents has been linked to school effectiveness (Goddard et al. 2001; Hoy et al. 1990; Tarter et al. 1995; Tschannen-Moran and Hoy 1998), positive school climate (Hoy et al. 1996; Tarter et al. 1989) and improved student achievement (Leithwood et al. 2010); these associations remain significant even when socioeconomic status and other student demographics factors (prior achievement, school SES, race, and gender) are accounted for (Goddard et al. 2001). In addition, three correlates of trust, namely academic press, teacher collective efficacy, and teacher professionalism, are also indicative of the centrally important role that trust plays in how leadership influences student learning (Tschannen-Moran and Gareis 2015b). In Chap. 8 (this book), Tschannen-Moran and colleagues explore the role that faculty trust in the principal plays in student learning, how principals can cultivate trust by attending to the five facets of trust, as well as the correlates of trust that mediate student learning.

Bryk and his colleagues (Bryk et al. 2010) point 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 trustful 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. Demonstrating collegial leadership (e.g., being friendly, supportive, and open) is a way of trusting teachers' decision making abilities and providing support and constructive criticism as opposed to constant monitoring and micro managing (Tschannen-Moran and Hoy 1998).

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 (Goddard et al. 2001).

A stable community of students directly affects the relational trust between teachers and parents. When there is a 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 constantly and fall back on an element of distrust as opposed to trust (Bryk et al. 2010). Principals should take extra measures to respond to an unstable community.

7.1.1 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 (Billingsley and Cross 1992; Firestone and Rosenblum 1998; Gordon 1999; Menzies 1995). 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 (Firestone and Rosenblum 1998; Nir 2002). Teachers who are committed to students believe in the value of life-long learning, build connection with them, and value their feedback, (Cain 2001; Nir 2002;). Organizational commitment has been conceptualized and measured as a mainly individual's strong belief in the organization, identification and involvement in the organization, and a strong desire to remain a part of the organization (Freeston 1997; Leithwood et al. 1999; Porter et al. 1974). Commitment to change includes elements of motivation, a more fundamental psychological state (Leithwood et al. 1999). 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 (Leithwood et al. 1999).

Teacher commitment to teaching, students and schools, (but not commitment to change) all contribute to student learning both independently and collectively (Glaze 2001; Griessler 2001; Housego 1999; Langer 2000; Strahan et al. 2001). The "ingredients" of teacher commitment, which could be teachers' feelings/emotions, attitudes, capacity, values, beliefs, motivations, overt commitment behaviours and sincerity (or insincerity) (Sun 2004), are reported as being positively associated with successful learning (Gill and Reynolds 1999; Janisch and Johnson 2003), teachers' instruction (Langer 2000; Hendel 1995), student moral growth (Williams 1993), and students' academic achievements (Harvey et al. 1998; Housego 1999). The majority of the 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 (Sun 2004). If a teacher likes the leader's personality, has a similar value orientation and agrees with or accepts the leader's motives, he or she is likely to be influenced positively by the principal. When a teacher

understands a leader's background experiences, he or she is more inclined to accept the leader's influence (Sun 2004). Principals' authenticity (consistency between words and actions) or in-authenticity (inconsistency between values and behaviors) significantly increases or decreases 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 teachers' commitment to school (Russell 2003).

Holistic leadership, characterized by supportive relationships, participation in the school shared governance, a culture of collaboration, connectedness and commitment to community (Beattie 2002), also contribute positively to teacher commitment, and student learning. School leaders can also influence teacher commitment by fostering shared governance and a culture of collaboration (Beattie 2002), professional learning communities (Stein and Burger 1999), school-based management (Nir 2002), collaborative professional development activities (Mantle-Bromley 1998), and participatory decision-making (Reames and Spencer 1998).

7.1.2 Collective Teacher Efficacy

Collective Teacher Efficacy (CTE) is the level of confidence a group has in its capacity to organize and execute the tasks required to reach desired goals (Bandura 1993; Goddard et al. 2004). Correlations between measures of CTE and student learning range from .38 to .99, with an average r of .61 based on the effect size averaging of six studies (Barr 2002; Eells 2011; Garcia 2004; Hoy et al. 2002; Hylemon 2006; Tschannen-Moran and Barr 2004). For example, Goddard and his colleagues' (Goddard et al. 2000) study 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; strongest correlations are associated with Caucasian students followed by African American and Hispanic students (Garcia 2004).

Ross and Gray's (2006) study of 3074 teachers in 218 Canadian elementary schools in two Ontario districts found that transformational leadership had a significant positive impact on the collective teacher efficacy of the school (r = .45; path analysis coefficient = .42, p<.01). Armstrong-Coppins (2003) explored what principals do to increase collective teacher efficacy in Midwest US urban high schools using a mixed method. A relationship was found between the principals' transformational leadership, as measured by the Nature of Leadership instrument (Hipp 1995 & Leithwood 1994, cited in Armstrong-Coppins 2003), and CTE. Schools with higher levels of transformational leadership had higher levels of CTE (path analysis coefficient = .48, p<.01).

7.1.3 Organizational Citizenship Behavior (OCB)

Organizational Citizenship Behavior (OCB) refers to individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that, in the aggregate, promotes the 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 (1988) and Podsakoff and his colleagues (Podsakoff et al. 2000) 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 (Tschannen-Moran 2001).

Empirical studies about the impact of OCB on student learning are few, though emerging; they suggest a significant and positive correlation between the OCB of faculty and student achievement in both reading and mathematics [e.g., r = .30 and .34 in 83], the same as the relationship between teacher's OCB and students' socio-economic status (SES). Being flexible, nurturing informal organization, encouraging novel solutions to problems, and limiting the use of formal rules and regulations are 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. Formality breeds rule-oriented behavior and rigidity. Modeling, informal praise, and supportiveness are all effective leadership practices.

7.2 Methods

Current empirical research falls short in estimating the indirect influence of school leadership on student learning because the majority of existing studies examine either the impact of leadership on learning or the effect of some (mediating) variable on student learning instead of both at the same time. Even large-scale studies using more sophisticated statistical modelling to examine mediating effects, the type of methods not often employed in the field of educational leadership, can only enter several variables into their models due to the lack of power and other statistical limits. Employing meta-analytical techniques complemented by an innovative effect size summation method, this study calculated and compared the effectiveness of multiple "critical paths" thus exploring propositions that cannot be answered 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 impacts on each of the path variables and the impacts of the each of the path variables on student learning outcomes. Narrative review method were used to identify school leadership practices effective in improving each of the path variables, and to identify and describe the

key variables or constructions populated on 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. Despite considerable variation in execution, scholars generally agree that the basic procedures involved in meta-analysis (and in this study[1]) 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 used to conduct the series of meta-analyses reported in this paper.[2] Pearson correlation coefficient r was chosen because it is the most suitable type of effect size for meta-analyzing results of the studies that examine correlational relationships (Rosenthal 1991). This study focused on the examination of correlational relationship, (i.e. to what extent do school leaders influence teachers' inner states; to what extent 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 (Lipsey and Wilson 2001).

If various statistics other than Pearson r were reported by the original studies, such as t or F, as the results of statistical analyses such as T-test or ANOVA, then ES r's were calculated based on the converting formulae provided by Fox and Tracy when the related statistics reported by the original studies permitted for doing the calculations. 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 (Lipsey and Wilson 2001) 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 (Wilson 2009; Lipsey and Wilson 2001)

[1] 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.

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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 estimated[3] the extent of this contribution. Then we identified from 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 a power index (the strength of the path from school leadership through the selected emotional variable to student learning) 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 impact of school leadership on those variables provides a way to compare the relative power of the critical paths using meta-analysis with second-hand data. Path analytical techniques or structural equation modeling are generally considered standard methods for examining indirect influence in original studies. However, these techniques require a large data sets and place 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.

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.

7.2.1 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 to school leadership. The average correlation coefficient between SES and student learning is about .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 .30 with student achievement.

With this inclusion criterion, published studies were searched through the Scholar's Portal, which covers the major journals in the field of educational administration[3] 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. We dropped variables that had weaker relationships

[3] We estimate the "extent" or impact 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.

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., these studies only reported path regression coefficients). These 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 in diverse geographic areas.

7.2.2 Evidence About Leadership Practices

The source of the evidence about leadership practices relevant for improving variables on the Emotional Path was unpublished theses or dissertations on transformational school leadership (TSL). This body of evidence was used to examine the impact of school leadership on each of the four emotional variables. Studies on TSL were chosen because TSL (e.g., Leithwood 1992) and instructional leadership (e.g., Hallinger and Murphy 1985) have been the two most frequently studied models of school leadership and the only school leadership models that have been empirically measured and tested.

Our review was restricted to the evidence about TSL because motivating and inspiring colleagues are central goals of TSL. As well, evidence about TSL provides a manageable size data base since the search for studies that examined the relationship between instructional leadership and teachers' emotional variables did not result in enough evidence from which to draw data for this meta-analytical review.

There were not sufficient numbers of published studies on TSL that could be used to conduct the meta-analyses intended in this study. Dissertations were reviewed to reduce publication bias, to mine insights yet unreported in the published literature, and to provide evidence of a standard, high quality. The biggest on-line database for doctoral dissertations, the Proquest Dissertation & Theses, was searched for all dissertations that inquired about transformational leadership in education with a completion time 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 effects[4] 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.

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

To complement our interpretation of results from this body of unpublished research, we also took account of the results of some especially well-known published studies as, for example, about instructional leadership (e.g., Hallinger and Murphy 1985), transformational leadership (e.g., Leithwood and Sun 2012), and learner-centered leadership (Robinson 2011). The studies included in this review are not inclusive, though we tried to be exhaustive.

7.3 Results

7.3.1 Teacher Trust in Others

Based on the meta-analysis of three studies (Kerley 2014; Tarter et al. 1989; Tschannen-Moran and Gareis 2015a; Zeinabadi 2014), we estimate the correlation between trust in others and student achievement to be.28 (weighted mean effect size *r*). Our meta-analysis of three studies (Kindel 2011; Mannion 1999; Marks 2002) indicated that TSL practices had significant effects on teachers' trust in others (weighted mean effect size, $r = .37$). Collegial, shared leadership is strongly related to faculty trust in the principal [Beta = 0.677, $p < 0.01$ in Tschannen-Moran and Hoy 1998; $r = .92$ in 27]. The 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 for the path from leadership to student learning through teacher trust is 0.65 (.37 +.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 (Handford and Leithwood 2013; Tschannen-Moran and Gareis 2015b). For example, principals must distinguish their positional, evaluative responsibilities from their collaborative, formative efforts when drawing upon their creative expertise 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 goodwill and genuine concern for teachers' well-being through their interpersonal interactions, formal communications and decisions (Tschannen-Moran and Gareis 2015b). As well, principals can build teacher trust by fostering collaboration in schools. Collaboration and trust are reciprocal processes (Bryk et al. 2010). 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. Principals' collaboration with teachers can also foster teachers' collaboration with parents, which in turn adds to teachers' trust in the principal (Tschannen-Moran 2001).

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. (Tschannen-Moran and Hoy 1998).

7.3.2 Teacher Commitment (TC)

Based on our meta-analysis of two quantitative studies uncovered in our search (Nicklaus and Ebmeier 1995; Solomon 2007), we estimated the correlations between teacher commitment and students' achievement to be $r = .30$. Park's (2005) two-level hierarchical linear modeling indicates a significant impact on student achievement of teacher commitment to the profession as $b = .123$; $p < .05$).

A meta-analysis of 24 dissertations that examined the relationship between TSL and teachers' commitment reported a strong association between the two (weighted mean $r = .61$) (Sun 2015). The addition of new evidence published between 2010 and 2014 (Boberg 2013; Kieres 2013; Kindel 2011) did not alter this result. Similar findings were found in studies that involved other leadership models (Billingsley and Cross 1992; Ebmeier 2003; John and Taylor 1999; Reames and Spencer 1998; Sun 2004). Nicklaus and Ebmeier (1995), for example, suggest 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 (.30) and these variables, in turn, are linked directly to student achievement ($r = .30$). We estimate the power index for this path to be .92 (.62 +.30).

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

- support (Billingsley and Cross 1992; Ebmeier 2003; John and Taylor 1999), or individual supports (Leithwood et al. 1999; Leithwood and Sun 2012),
- collaborative supervision (Ebmeier 2003),
- principals' control and empowerment strategies (Blasé Blase 1993),
- direction-setting (i.e., building a shared vision and developing consensus about goals creating high performance expectations) (Leithwood et al. 1999),
- modeling (Leithwood et al. 1999; Sun 2010) [41, 61],
- intellectual stimulation (Leithwood et al. 1999),
- encouragement of innovation and risk taking (Reames and Spencer 1998),
- consideration (John and Taylor 1999), and
- emphasis on teaching (Sheppard 1996).

7.3.3 Collective Teacher Efficacy (CTE)

Our meta-analysis of three unpublished studies of TSL indicated a positive relationship (weighted mean $r = .30$) between principals' TSL and collective teacher efficacy (Nicholson 2003; Rutledge 2010; Solomon 2007). Other published studies report larger impacts. For example, transformational school leadership made a small but practically important contribution to overall student achievement through the mediating effects of collective teacher efficacy and teacher commitment (Ross and Gray 2006). Thus, the power index for the path linking leadership to student learning through CTE is 0.91 (.61 +.30).

Particularly influential with 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 (Leithwood and Sun 2012; Robinson 2011).
- *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 (Leithwood and Sun 2012; Sun 2015).
- *Providing appropriate models*: school leaders provide a model of high ethical behavior, instill pride, symbolize success, and walk the talk (Leithwood and Sun 2012).
- *Holding high expectations*: Expecting a high level of professionalism from staff; holding high expectations for students; expecting staff to be effective innovators (Leithwood et al. 1999).

7.3.4 Organizational Citizenship Behavior (OCB)

Based on our meta-analysis of two studies (DiPaola and Hoy 2005; Zeinabadi 2014), we estimated the correlation between teachers' OCB and student achievement to be .41. Our meta-analysis of three studies (Boberg 2013; Mannion 1999; Marks 2002) indicated that transformational leadership practices had a significant, close to large, impact on OCB (the weighted mean effect size, $r = .48$). The power index for the path from leadership to student achievement through OCB is.89 (.48 + .41).

To enhance teachers' OCB in schools principals can:

- 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 trivia – unnecessary meetings, too much paper work, silly rules, busy work, etc.
- Try not to make the teaching contract too specific 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 (DiPaola and Hoy 2005).

In sum, this review of evidence about variables on the Emotional Path indicates that each of four emotions has significant effects on student achievement and can be improved by leaders enacting 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.89 to.91). The power index for teacher trust was much lower, .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 for leaders is not just about which emotions stand the greatest chance of improving student learning, it is also a question about which emotions they have the greatest chance of influencing? We explore the uses of power indices further in Chap. 16.[5]

7.4 Conclusion

The limitations of the study described in this chapter are related to the small sample of the studies used in meta-correlation analyses (though we did cover about dozens of hundred studies in our narrative review to compliment the meta-analytical review), the use of only one type of school leadership model to calculate the leadership impacts on teacher emotions, and the use of unpublished evidence for calculating school leadership impacts.

This chapter has provided partial justification for leaders' attention to four variables on the Emotional path – Collective Teacher Efficacy, Teacher Commitment, Organizational Citizenship Behavior, and Teacher Trust in Others. Results of our

[5] The power indices calculated in this chapter were based on estimates of effects or impacts across multiple studies, many of which were unpublished. So these power indices may be different than those based on an original large-scale data set as used, for example, in Chap. 16.

review of evidence 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.

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