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Principal–Teacher Interactions: How Affective Relationships Shape Principal and Teacher Attitudes

Heather E. Price[1]

Abstract

Purpose: Research finds that the attitudes of principals and teachers create an atmosphere for learning, often referred to as school climate, that influences school effectiveness. Other research shows that atmospheres of trust, shared vision, and openness create positive school climate conditions. Little is known, however, about how these climates emerge in some schools and not others. There is good theoretical reason to suspect that interpersonal relationships between principals and their teachers influence school professionals' attitudes that define the broader school climate. Theories from organizational studies, social psychology, and sociology inform hypotheses about how affective, cathectic responses from interpersonal principal–teacher relationships explain variation in school professionals' satisfaction, cohesion, and commitment levels. **Research Design:** Nationally representative data from the Schools and Staffing Survey, 2003–04, match principals to teachers in public elementary schools. Using structural equation modeling, relational mechanisms between principals and their teachers are identified and explain positive principal attitudes. This process is then linearly regressed to explain the effects of these relationships on teachers' attitudes. **Findings:** Principals' relationships with their teachers affect

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principals' and teachers' satisfaction, cohesion, and commitment levels. Among principals, these positive work relationships improve job satisfaction, cohesion perceptions, and commitment levels. Among teachers, substantial variation is explained directly by the relationship mechanism of principals sharing expectations with their teachers. **Conclusions:** School professionals' attitudes form under similar organizational conditions as those of other workers. These relationships affect the schooling environment. Because of their centrality and leadership position, particular focus is paid to role of the principal in these relationships. The relationships of principals, as the school leader, strongly and directly affect teachers' attitudes, which define the schooling climate.

Keywords

principals, school climate, school effectiveness, teacher effectiveness, school organization

Principals are central figures in schools whose actions directly shape their schools' climate. Research finds principals especially influential over the organizational climate of the school where they are able to foster trusting, cooperative, and open environments where input from staff is welcome (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010; W. K. Hoy & Henderson, 1983; W. K. Hoy, Smith, & Sweetland, 2002; Leithwood & Jantzi, 1990, 1999; Leithwood, Leonard, & Sharratt, 1998; Louis et al., 2010; Rosenholtz, 1985, 1989). This same research identifies that the trusting, cooperative, and open characteristics in schools generate higher levels of satisfaction, cohesion around school goals, and commitment among faculty. Principal–staff relationships and interpersonal interactions are found to be central factors for these outcomes (W. K. Hoy et al., 2002; W. K. Hoy & Henderson, 1983; Leithwood & Jantzi, 1990; Louis et al., 2010; Moolenaar, Daly, & Sleegers, 2010; Ogawa & Bossert, 1995; Rosenholtz, 1985; Stephenson & Baur, 2010; Wahlstrom & Louis, 2008). Trust is the bedrock to building and sustaining these organizational relationships (Bryk et al., 2010; Bryk & Schneider, 2002; Tschannen-Moran, 2004). But "less research has dealt with trust grounded in emotional bonds among interdependent individuals" (Yang & Mossholder, 2009, p. 52). Principal–teacher relationships offer a prime organizational case where relational trust likely develops from emotional bonds.

This study seeks to understand why and how relationships between principals and teachers create desirable distal trust outcomes of satisfaction, cohesion, and commitment in schools. This study steps back and investigates

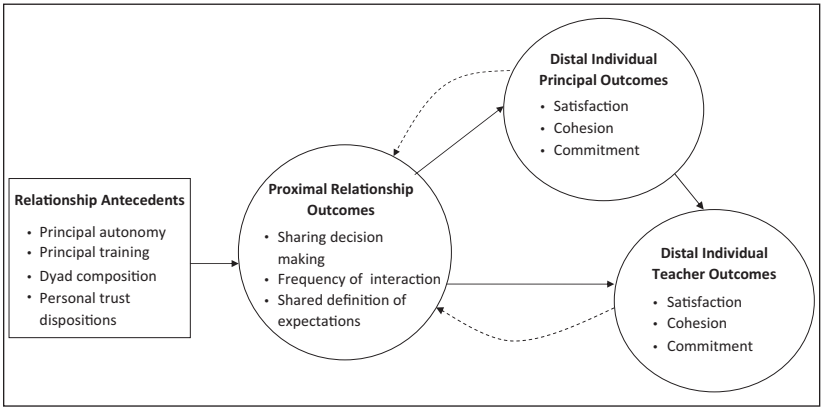

Figure 1. Conceptual model of principal–teacher relationship process affecting principal and teacher attitudes

the interpersonal and organizational mechanisms that underlie variation in these distal outcomes among school faculty. Specifically, this study takes particular interest in the cathectic, affective proximal outcomes generated through principal–teacher interactions to understand differences in attitudes held by both parties (see Figure 1). Particular focus is paid to the principals' contribution to these relationships as they are in the structural position to initiate and sustain relationships with teachers (Bryk et al., 2010). This analysis reveals proximal relationship outcomes underlie key outcomes of satisfaction, cohesion, and commitment associated with differences in school climate and effectiveness.

Background

Positive school climates are largely understood to be environments in which the whole of the school community prospers (Bryk & Driscoll, 1988; Cohen, McCabe, Michelli, & Pickeral, 2009). The effects of positive school climate are clear. Educators prosper when they feel that their efforts are positively affecting students (Dinham & Scott, 1998; Kelley, 1999; Lortie, 1975; Newton, Giesen, Freeman, Bishop, & Zeitoun, 2003; Rosenholtz, 1985). Students prosper when qualified teachers and principals invest time and effort into their learning and development (Hulpia, Devos, & Rosseel, 2009; Rosenholtz, 1985, 1989).

The characteristics associated with positive school climates are well documented. Work from Bryk and colleagues, Hoy and colleagues, and Tschannen-Moran

and colleagues suggests positive school climates foster trust, cooperation, and open input from staff. Bryk and colleagues find schools with high levels of trust associate with high levels of loyalty and commitment among its school members. Staff commitment fosters effective schools (Bryk et al., 2010; Firestone & Pennell, 1993; Hulpia et al., 2009; Rosenholtz, 1989). High levels of staff trust and involvement associate with high levels of cohesion among school members, especially around school goals (Bryk & Driscoll, 1988; Bryk et al., 2010; Bryk, Lee, & Holland, 1993; A. W. Hoy, Hoy, & Kurz, 2008; W. K. Hoy et al., 2002; Rosenholtz, 1985, 1989; Tschannen-Moran, 2009). High levels of satisfaction among school personnel are often found in open school environments where risk taking is encouraged between teachers and principals, especially when the risk aims toward school improvement ideas (Bryk et al., 2010; Firestone & Pennell, 1993; W. K. Hoy et al., 2002; W. K. Hoy & Henderson, 1983; Hulpia et al., 2009; Lee, Dedrick, & Smith, 1991; Tschannen-Moran, 2009). Positive effects from these school climate characteristics are clear.

The tone of the school climate, especially the atmosphere of trust, is established by the principal (Bryk et al., 2010; Bryk & Schneider, 2002; Tschannen-Moran, 2004). Principals who can genuinely establish a trusting school environment for all school members—parents, teachers, students, community—can become "drivers of change" (Bryk et al., 2010). With this trust, cooperation and collaboration around unified school goals and program coherence can thrust forward school improvement ideas and plans, even among disadvantaging barriers (Bryk et al., 2010). The positive effects from building and maintaining these trusting relationships are now central to research on school effectiveness. When principals establish trusting school spaces, serious school improvement and success can occur.

Underexplained in the literature is how organizational leaders, such as principals, can foster trusting school climates among all the organizational members. To borrow from Bryk and colleagues (2010), the ingredients to "bake the cake" of effective schools are known, but it is the "recipe" that is still unclear. This study draws on the interpersonal and affective processes discussed in other literatures to help explain the principal–teacher relationship trust recipe that produces variation in satisfaction, cohesion, and commitment levels among school professionals.

Organizational and social psychological research provides platforms to conceptualize an explanation of variation in affective principal–teacher relationships associated with positive school climate qualities. In workplace organizational studies, individual relationships embedded in trust are strongly linked to the positive climate outcomes of higher job satisfaction, cohesion,

and commitment to the organization (Brower, Schoorman, & Tan, 2000; Burke, Sims, Lazzara, & Salas, 2007; Jones & George, 1998; Yang & Mossholder, 2009). Social psychological theories explain how and why interactions produce and reproduce these beneficial outcomes for both persons. Both research areas pay particular attention to the differences that occur under supervisor–subordinate interactions. This supervisor–subordinate distinction is particularly relevant for this article since the principal's supervisory role in the school may create different relationship effects on principal and teacher attitudes as compared to the effects that might be found in a teacher-to-teacher analysis.

This project applies the organizational studies, social psychological, and sociological theoretical and empirical work on trust, affect, and exchanges in workplaces to explain variation in principal and teacher satisfaction, cohesion, and commitment levels. To explain variation in these principal and teacher attitudes associated with positive school climates, this article focuses the analysis on the processes embedded in principal–teacher relationships. The first set of analyses focuses on the relationship processes between the principals and their teachers that affect the principals' attitudes. The second set of analyses uses the principal–teacher relationship in conjunction with the principal attitudes to explain teacher attitudes. This focus helps elucidate the processes underlying attitude formation of school professionals that are central in the creation and definition of the schooling climate.

Significance of Work

Few studies explain strong, significant teacher and principal characteristics that matter for student success. Teacher certification and schooling, two of the most commonly measured teacher characteristics, consistently explain little to no variation in student achievement (Nye, Konstantopoulos, & Hedges, 2004; Wayne & Youngs, 2003). The effects of principal certification and experience are even paltrier (Olson, 2007). Partially, these weak conclusions are the result of the lack of statistical variation in these traits (Nye et al., 2004). Most teachers in the United States are properly certified and hold bachelor's degrees, and too few graduate from prestigious universities. Most principals hold master's degrees and previously taught in the classroom. With the exception of some demographic identifiers, few other effects are reported in the literature. This study proposes to use relational data on principals and teachers to identify worker attitude characteristics to better explain positive organizational school climates.

The No Child Left Behind (NCLB) legislation clearly emphasizes the importance of qualified staff for student learning, but its measures of qualifications

are weak. NCLB defines teacher quality only through certification standards and fails to explicitly define principal quality. The upcoming renewal of NCLB is set to retain its focus on teachers and increase its emphasis on principal quality (Duncan, 2010; Klein, 2010; Olson, 2007). For a revision of NCLB to be truly effective, it will require an understanding of what distinguishes and what produces high-quality principals and teachers. Supervisor–subordinate relationships often define effective leadership. Trust in these relationships is especially crucial when organizations undergo crises (Kramer & Tyler, 1996) or when workers are asked to do something unfavorable (Brockner, Siegel, Daly, Tyler, & Martin, 1997). In today's intense school reform climate, principals who can build relational trust with their teachers may be especially important for improving schools.

Research shows that positive school climates maximize student learning opportunities (Lee & Bryk, 1989). Variables associated with positive school climates are identified in other research, but few studies have been able to quantitatively explain the emergence of variation on these factors, the "recipe" for the ingredients. This study helps to reveal the supervisor–subordinate relationships among school professionals that influence attitudes associated with positive school climates. This article emphasizes the centrality of the principal (supervisor) in this process.

Theoretical Framework

This study merges theory from several areas of scholarship to address the following research questions: How does variation in organizational relationships manifest differing levels of satisfaction, cohesion, and commitment among principals and teachers? And how do principals' attitudes contribute to positive teacher attitudes? The following sections outline the salient features of theories regarding the role of relational trust and cathectic, affective relationships in promoting positive organizational environments. Given the traditional American public school structure, the school climate is assumed to parallel other work environments.[1] These organizational work theories are then applied to postulate the specific role of supervisor–subordinate relationships on positive school climates. This article specifically focuses on the effect of the principal on the teacher attitudes because of their centrality and leadership position in the school organization.

Principal as Supervisor

The past two decades of empirical research sheds light on how and to what degree principals influence school effectiveness. Several scholars provide

ample evidence that effective principals enhance teacher success and quality when principals embrace qualities of consistent, technical school goals (Bryk et al., 2010; Goldring & Pasternack, 1994; Leithwood & Jantzi, 1990, 1999; Louis & Leithwood, 2010; Robinson, Lloyd, & Rowe, 2008; Rosenholtz, 1985), develop and maintain coherence to shared norms and values (Bryk & Driscoll, 1988; Bryk et al., 1993; Bryk et al., 2010; Firestone & Wilson, 1985; Goldring & Pasternack, 1994; Lee et al., 1991; Leithwood & Jantzi, 1990, 1998; Ogawa & Bossert, 1995), and authentically involve school staff in decision making to reach the goals and improve the school (Bryk et al., 2010; Elmore, 2000; Goddard, Goddard, & Tschannen-Moran, 2007; Lee et al., 1991; Leithwood & Jantzi, 1990, 1998, 2008; Louis et al., 2010; Robinson et al., 2008; Tschannen-Moran & Hoy, 2000). Principals' ability to select their school staff expedites goal attainment, as it allows principals to match staff with organizational and instructional goals (Brewer, 1993; Bryk et al., 2010; Leithwood & Jantzi, 2008). Consistency of principal actions, however, is a necessary tenet of effective principals (Bryk et al., 2010; Firestone & Wilson, 1985; Kelley, 1999; Kelley & Finnigan, 2003; Rosenholtz, 1989; Spillane & Healey, 2010). Most of this research concludes that principals directly influence informal school processes, such as teacher attitudes and behaviors, while indirectly influencing student outcomes of achievement and engagement.

The organization of schools causes tension between the subordinate teachers and the supervisor principals. Teachers are afforded much autonomy and authority, given the loosely coupled structural organization of schools (Weick, 1976). Historically, once teachers close their classroom doors, many may do (mostly) as they wish, independent of oversight (Lortie, 1975). More recently, the trend to school organization around teacher teams and professional learning communities has mitigated the chances of rogue teachers in classrooms that were possible under the typical "egg crate" structure (Bryk et al., 2010; Gamoran et al., 2003). In these new classrooms, teachers and teacher leaders are positioned to enforce normative standards among colleagues (Bryk et al., 2010; Gamoran et al., 2003). But neither classroom structure relies heavily on the principal as an authority.

Principals hold little enforcement authority despite their oversight role and leadership position in the school hierarchy. Principals are directly subordinate to district administration but have little power to enforce teacher adherence to district mandates (Barr & Dreeban, 1983; Bidwell, 1957, 1965; Lortie, 1975, 2009). This disables principals from sanctioning noncompliant teacher workers, a structural challenge not experienced by most organizational managers. This asymmetrical power structure puts principals in an especially vulnerable organizational position (Bryk et al., 2010). To navigate

these challenges, principals take on bridging and buffering roles (Honig & Hatch, 2004; Rutledge, Harris, & Ingle, 2010). Coherence between staff and districts occurs with successful bridging and buffering principals (Honig & Hatch, 2004; Knapp, Copland, Honig, Piecki, & Portin, 2010; Rutledge et al., 2010). Isolated principals who do not bridge or buffer risk burnout (Stephenson & Baur, 2010).

Given the loose authority of the principal, it is no surprise that previous studies have found mixed effects of principals' authority on their teachers' school climate. Several studies have shown the importance of distributing leadership in schooling decisions (Elmore, 2000; Firestone & Pennell, 1993; Leithwood & Jantzi, 1990; Robinson et al., 2008). Distributing power can increase innovative teaching (Leithwood & Jantzi, 1990; Somech, 2005). But teacher commitment levels can deplete under distributed administrative duties (Hulpia et al., 2009). Other studies have shown that teachers benefit instead from traditional, directive principals (Rosenholtz, 1985; Somech, 2005). Highly centralized principals can increase innovation and teachers' commitment (Moolenaar et al., 2010). Among this mix of principal authority studies, most findings do share the idea that principals are more effective when they undertake facilitative personas rather than authoritarian ones (Bryk, Camburn, & Louis, 1999; Bryk et al., 2010; Elmore, 2000; Firestone & Wilson, 1985; Goldring & Pasternack, 1994; Leithwood & Jantzi, 2008; Louis et al., 2010; Spillane & Healey, 2010; Wahlstrom & Louis, 2008).

Under the idea of leadership as facilitation, it is no surprise that the effect of principals on school climate is stronger than the effect on instruction (Louis et al., 2010; Wahlstrom & Louis, 2008). It is the supportive workspace that principals propagate for teachers that provides a successful learning environment (Bryk et al., 2010; Honig, Copland, Rainey, Lorton, & Newton, 2010; Knapp et al., 2010; Portin et al., 2009). Supportive administrators enhance collegial support and cohesion among staff, a process that feeds back to form even stronger trusting relationships (Bryk et al., 2010; Leithwood & Jantzi, 1990) and reduces the structural vulnerability of principals (Bryk et al., 2010). Principal supportive and encouragement behaviors toward staff directly and indirectly influence teachers' professional commitment (Singh & Billingsley, 1998). The "principal effect" on their staff and school climate is magnified by amount of oversight given to the principals from the district or central office (Bryk et al., 2010; Elmore, 2000; Firestone & Wilson, 1985; Honig et al., 2010; Leithwood & Jantzi, 2008). In effect, the informal relationships and interactions between principals and their teachers centrally explain leadership effects on school organizational climates (Ogawa & Bossert, 1995).

Given this literature, a focus on the impact of principals' attitudes on their staff seems a fruitful area to explore variation in principal effectiveness on teacher attitudes and school climate. To investigate this idea, an analysis first needs to understand the processes that create variation in principal attitudes. Once the mechanisms underlying principal attitudes are revealed, the processes can then be applied to understand variation in teacher attitudes. In the review below, I argue that the cathectic, affective connections gained from principal–teacher relationships form a primary process that produces variation in principal and teacher attitudes. External structural factors, such as district rules, that may impede on these relationships and moderate the processes are also discussed (Rousseau, Sitkin, Burt, & Camerer, 1998).

Attitude Formation in Organizations

Satisfaction, cohesion, and commitment attitudes among individual workers are influenced by a number of personal, relational, and organizational factors.[2] Personal, psychological dispositions precede and condition the degree to which individuals perceive their own satisfaction, cohesion, and commitment levels. Relational factors emerging between workers are highly variable and influential outcomes arising proximate to the interactions. Organizational factors that vary between organizations are often treated as control variables. For this article, relational factors are the main focus since they emerge from the actual interactions. The distal outcomes of satisfaction, cohesion, and commitment attitudes arising from the interaction are the focus of this discussion because of their association with effective schools research.

The organizational literature discusses benefits from affectively bound worker relationships (Brief & Weiss, 2002). For individuals, relationships between workers with a positive affective dimension increase personal health, happiness, and job devotion. The individual benefits spill over to improve the whole organizational work climate and work quality (Brief & Weiss, 2002; Podolny & Baron, 1997). As discussed, the professional and personal attributes contribute to variation in emotional attachments and complicate the understanding of affective effects.

To explain conditions that enhance or reduce job commitment, job satisfaction research focuses on strength of the relationship ties and group cohesion principles (Kardos & Johnson, 2007; Miskel & Ogawa, 1988; Podolny & Baron, 1997). Strong interpersonal ties and group cohesion help integrate actors into work environments and increase their job satisfaction. Job attrition also decreases, thus increasing job commitment (Kardos & Johnson, 2007; Miskel & Ogawa, 1988). Affect-based work relationships positively

correlate with individual satisfaction (Brief & Weiss, 2002; Lease, 1998) and organizational commitment levels (Lease, 1998). In this study, it is therefore hypothesized that job satisfaction positively influences cohesion and commitment levels of principals and teachers to their school.

The management literature focuses heavily on the internal organizational factors explaining individual worker attitudes. As of late, much of this research has focused on the role of trust in organizations. The inherent interdependence between workers in organizations makes trust a natural focus for studying worker attitude variation. But trust becomes a salient dyadic relationship characteristic only in organizations where risks are shared among workers to complete a task (Cook, Hardin, & Levi, 2005; Mayer, Davis, & Schoorman, 1995). To best accomplish an organizational task, workers need to accept a level of vulnerability on behalf of another worker (Mayer et al., 1995). This willingness to accept risk on behalf of another then feeds back and enhances the relationship and relational trust between both workers (Jones & George, 1998).

The strength of trust between two workers, given the external organizational conditions on the relationship and the personal trusting disposition of each worker, produces variation in proximal and distal outcomes arising from the relationship. The interactional frequency, amount of shared decision making, and strength of affective ties between the workers are immediate and proximal relationship outcomes produced directly as a result of the level of trust in the interpersonal exchange (Burke et al., 2007). Satisfaction, cohesion, and commitment levels are distal individual outcomes resulting from the level of trust in the interpersonal exchange working through the proximal relationship outcomes (Burke et al., 2007). But most organizational research focuses on the truster in the relationship, not the trustee (Whitener, Brodt, Korsgaard, & Werner, 1998). Leader-member exchange theory suggests that the amount of trust from a supervisor to a subordinate differentially affects the quality of the relationship (Brower et al., 2000). This study begins with a focus on the principal, who is the trustee in the relationship. Given the relationship structure, differential outcomes of satisfaction, cohesion, and commitment levels are expected for principals and teachers.

This study uses these notions of relational trust in organizations to outline the salient processes between principals and teachers necessary to produce positive school climates. Although it is difficult to directly measure trust between persons without something like an organizational trust inventory, the proximal and distal outcomes associated with relationship trust can be evaluated with self-reported questionnaire data like the Schools and Staffing Survey. The social psychological literature on interpersonal relationships

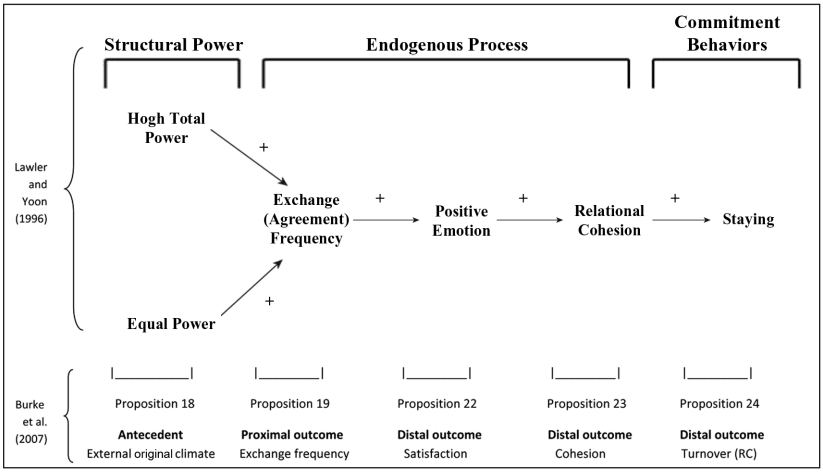

Figure 2. Conceptual model of principal–teacher relationship process
Adapted from Lawler and Yoon's (1996, p. 92) relational cohesion theory model and Burke, Sims, Lazzara, and Salas's (2007, pp. 622-625) trust in leadership process.

helps clarify the development of relational trust between persons and is discussed in the following paragraphs. The literature review ends with a discussion of the benefits of such cathectic relationships for the individual and the organization.

Satisfaction, Cohesion, and Commitment Levels in Interpersonal Exchanges

The social psychological literature explores how personal commitments between persons (in dyadic interactions) influence the productivity from the dyadic exchange. Emotional ties are what maintain the relationship commitment. Lawler and colleagues (Lawler, Thye, & Yoon, 2000, 2006; Lawler & Yoon, 1993, 1996, 1998) have consistently shown in the laboratory setting that positive emotion, measured with constructs such as satisfaction, influence an actor's commitment to that relationship (see Figure 2). This relational cohesion process is then assumed to feed back to cyclically increase the frequency of interaction between the two persons.

The social psychological relational cohesion process shown in Figure 2 parallels the organizational trust processes outlined by Burke et al. (2007). As Figure 2 shows, external organizational climate (Prop. 18) restricts the proximal

relationship outcomes of exchange frequency, shared decision making, and organizational citizenship (Props. 19–21). These proximal outcomes proceed to influence distal outcomes of satisfaction, cohesion, and turnover for individuals (Props. 22–24). This process then feeds back, building relational trust for both persons through the evolving experience where the "attitudes structure the experience of trust" (Jones & George, 1998, p. 533).

It is important to note that the laboratory research has mostly been tested under equally distributed power (Lawler & Yoon, 1993, 1996, 1998) and productive exchange (Lawler et al., 2000) experimental designs. In only one laboratory setting have relational cohesion and affect effects been tested under imbalanced power designs (Lawler et al., 2006). In this experiment, relational cohesion principles acted similarly on cohesion, but the effect sizes shrank. The frequency of exchange and role of emotion weakened in imbalanced dyads, but cohesion no longer influenced commitment behaviors.

The organizational literature also finds that the magnitude of influence of affect varies by worker positional power. The emotional attitudes of supervisors affect subordinates, but the effect of emotion is greater among coworkers (Lease, 1998; Riggio & Cole, 1992). Given the weak supervisory power of principals, this caveat may matter little. But the distributed leadership literature seems to show that there is room to balance power between principals and teachers. In this research, the size of the "principal effect" on teachers' attitudes increases as principals balance the school power by sharing more decision-making powers with their teachers (Spillane, 2006; Wahlstrom & Louis, 2008). Teachers' commitment increases when they are given more management participation through power sharing (Bogler & Somech, 2004; Elmore, 2000; Firestone & Pennell, 1993; Lee et al., 1991; Leithwood & Jantzi, 2008; Louis & Leithwood, 2010; Robinson et al., 2008; Somech & Bogler, 2002). Since more frequent exchanges signal principals involving teachers in the decision-making process, this suggests that power sharing is positively related to exchange frequency between principals and teachers (Leithwood & Jantzi, 1990; Spillane, 2006). When the level of power sharing between principals and teachers is controlled, relational cohesion theory findings would suggest that the frequency of joint professional interactions would increase the affective dimension of satisfaction. It follows from the model presented in Figure 2 that the positive affect related to better satisfaction would then increase perceptions of cohesion. Positive cohesion perceptions then directly increase commitment levels of persons in the relationship.

The risk associated with establishing affective relationships is lower for the supervisor than for the subordinate (Brower et al., 2000; Schoorman, Mayer, & Davis, 2007). Trust is therefore more salient to the subordinate

than the supervisor (Kramer & Tyler, 1996). The corresponding trust effect magnitude thus varies by positional power of the organizational worker (Kramer & Tyler, 1996). The process associated with the relationship may therefore matter more for teacher outcomes than for principals. In addition, the influence of trust positively correlates with the degree of organizational interdependence between two persons (Whitener et al., 1998, p. 520). In schools where a principal decides to share school decision making with the teachers, therefore increasing balanced power and interdependence, the effect of the principal on teacher attitudes is expected to strengthen.

Significant Antecedents to Distal Outcomes

Personal attributes and organizational structures can affect the formation of relationship interdependence and trust. The effects of affective relationships could thus be restricted or enhanced by certain personal or organizational factors. The influence of homophily is obvious in this situation—persons are more likely to build trusting relationships with others of similar gender, ethnicity, age, or other easily identifiable trait. The demographic composition of the dyads is controlled in this analysis, but the antecedents of most concern for this study relate more specifically to the principal–teacher relationships.

Early occupational research on job satisfaction discusses the strong influence of congruency between worker expectations about their job duties and their actual organizational roles. Holland (1959) describes this expectancy state process as the theory of vocational choice (TVC). TVC outlines that workers whose personal traits align with the traits of the organization experience more positive outcomes, such as job satisfaction, than workers with personalities that do not fit as well with the organizational expectations. Empirical studies related to effects regarding matching of personality to job traits on job satisfaction have been mixed (Spokane, Meir, & Catalano, 2000). TVC has been upheld as a sufficient condition for job satisfaction in a myriad of organizational studies on bank tellers, scientists, male ministers (Spokane et al., 2000), female navy enlistees, and female secretaries (Hoeglund & Hansen, 1999). However, TVC does not significantly predict job satisfaction in jobs such as dental hygienists, medical technologists (Hoeglund & Hansen, 1999), and enlisted male soldiers (Spokane et al., 2000).

The principal job is a good career with which to test the tenets of the TVC. One can imagine that principals may enter the profession for laudable reasons such as to become academic and moral inspirations for their teachers and students. After they are placed at their own school, they may quickly realize that the job is not as they expected. The administrative job requirements, such

as serving on district committees, attending meetings, and adhering to bureaucratic mandates and district rules, may subtract from their expected job satisfaction level. These principals' previous unawareness of these job facets could ultimately lead them to switch schools. If they continue to experience misalignment between their job expectations and the actual school duties, they might choose to leave the profession altogether—an ultimate decommitment. However, if these same principals have better expectations of their principal duties and roles, such as if they had prior training and/or were an assistant principal beforehand, the alignment between principal expectations with their real duties and roles could increase. Good training programs could also select out unsuitable persons (Jackson & Kelley, 2002). It is likely that principals with prior exposure to principaling before entering their official position would increase TVC alignment. Conversely, principals with no prior exposure to principal duties would be less likely to experience congruency. This misalignment would subsequently decrease their job satisfaction and commitment levels. Therefore, pretrained principals are expected to report higher levels of job satisfaction and commitment than nonpretrained principals.

Broadly underlying Holland's TVC are definition of the situation ideas. Originally outlined by Thomas (1931), this theory draws on expectations state theory to describe fruitful interpersonal exchanges. An individual's interpretation of the social stimuli determines his or her behavior in the interaction (Fazio, 1986). Within an exchange, if the ego's role expectations of the alter matches the alter's role behaviors (and vice versa), then the exchange is likely more successful than if there is mismatch (Thomas & Thomas, in Hewitt, 2007). Two persons sharing relationship expectations improve the proximal and distal relationship outcomes for each individual (Brower et al., 2000). When definitions of relational expectations are shared, feelings of satisfaction and commitment increase and interactions increase in frequency because they are perceived as easy and satisfying (Davis, 1963). Shared school expectations benefit the broader school climate (Kelley, 1999; Kelley & Finnigan, 2003). When definitions of expectations are shared between principals and teachers, attitudes for both persons are likely to improve.

Both of these expectation state-based theories of TVC and definition of the situation are tested in this study. Specifically, principal preparation, as measured by prior assistant principal experience and/or preprincipal training programs, is expected to increase the likelihood of aligning job requirements to personality traits of principals (TVC). These preparatory experiences should therefore moderate the individual levels of principal satisfaction and commitment. Principals letting staff members know their expectations improve

shared definitions of the situation. Shared definitions of expectations are likely to directly increase the frequency of exchanges as well as satisfaction, cohesion, and loyalty (commitment) among both parties.

Organization studies also show that external structures can impede the development of affective, emotional, and trust bonds between workers in an organization (Rousseau et al., 1998). In this study, external factors that could constrain principal–teacher relationship effects, such as a district's limiting principal autonomy over school decisions, are expected to restrict the influence of cathectic relationships on desired distal outcomes. I expect to find that the amount of autonomy that districts allow their principals moderates the relationship influences on principal and teacher attitudes.

Data and Method

The aim of this article is to understand the conditions under which attitudes associated with positive school climates emerge in schools. The theory presented thus far suggests that interpersonal relationships with persons at work (in this instance, between principals and teachers) can positively influence individual worker commitment, cohesion, and satisfaction. The organizational literature also suggests that relationships with managers uniquely contribute to worker attitude formations. Relational trust between supervisors and subordinates can be central to shaping positive work climates. This analysis therefore focuses on the effects of principal–teacher relationships to explain variation in satisfaction, cohesion, and commitment outcomes. Particular consideration is given to the direct effect that principals' attitudes have on teacher outcomes.

Instrumentation and Variable Construction

The Schools and Staffing Survey (SASS) is a nationally representative survey of districts, schools, teachers, principals, and librarians in the United States. Every 4 years, the survey assesses a myriad of domains, including staff qualifications and district, school, and classroom conditions. For this study, public school principal and teacher surveys are matched by school for the 2003–2004 school year. Teachers are matched to their principal using school ID.[3] Research by Bidwell and Yasumoto (1999) and Bidwell (2001) suggests that the strength in secondary education more likely clusters around departments and department heads, not principals. In consideration of this possible department clustering confounding the outcomes, only elementary school principal–teacher relationship effects are analyzed in this study.

Table 1 shows the distribution of the principal–teacher matches across selected school and dyadic-relationship pairing characteristics. Within schools, approximately one third of schools had 1 to 5 principal–teacher dyads identified, one third had 6 to 20 dyads coded, and another one third of schools had more than 21 sets of teachers' surveys matched to their schools' principal survey data. The density of dyads distributes fairly evenly across school characteristics of size, poverty, and grade levels, which is expected given the stratified sampling techniques used by the National Center for Education Statistics. There is an urban-based skew in the distribution by the number of dyads coded per school, but the total number of dyads across urbanicity is quite even. For the relationships, there are far fewer male–male dyads and far more White–White dyads represented than others.

To assess the relationship process between principals and their teachers, several latent variables are developed from Likert-type scale question responses. The degree of power sharing allowed by the principal is captured by principals rating the extent to which their teachers have equal voice in choosing the curriculum, discipline policies, in-service programming, teacher evaluations, hiring, and budget decisions. Frequency of joint professional exchange reflects the amount of joint principal and teacher professional development activities that occur during the school year. Principal satisfaction uses a general question: "I like the way things are run in this district." Principal cohesion assesses the principal's perception of teacher unity around the way things run in the school. Principal commitment behavior is latently constructed from several indicators assessing whether or not the job is "worth it" given the stress, the low pay, and/or the transferring hassle. Appendix A details the individual questions included in each of the operationalized variables and, when relevant, the alpha reliabilities of the scales. Table 2 shows the basic descriptive statistics for the latent variables used in the models and the dependent variable correlations.

Exogenous to the affective relationship process are the moderating effects of principal autonomy from the district and personal antecedents related to expectations matching. Principal autonomy assesses principals' ratings about their degree of direct control over personnel policies, termination decisions, bureaucratic processes, and tenure assignment within their school, independent of district control. Matched expectation effect ideas are split into definition of the situation and TVC characterizations. Shared definition of expectations is an exogenous variable assessing the degree to which the principal lets teachers know what is expected of them. Principal preparation variables define TVC effects. Whether or not the principal was formerly an assistant principal and/or whether or not he or she participated in a principal

Table 1. Principal–Teacher Relationship Dyad Distributions for Selected Characteristics

	1–5 Dyads per School	6–20 Dyads per School	> 21 Dyads per School	Total # Dyads per School
Urbanicity				
Small town or rural	1,240	1,480	520	3,240
Urban fringe of a large or midsize central city	1,680	2,070	1,220	4,970
Large or midsize central city	630	900	1,880	3,410
School characteristics				
School size, per 100[a]	4.343	4.469	5.168	11,620
	2.208	2.059	2.397	
Free or reduced lunch, proportion %[a]	42.585	46.885	46.911	11,620
	26.662	28.068	30.532	
Grade levels taught by teachers				
Prekindergarten	60	50	50	150
Kindergarten	670	410	270	1,350
1st	880	520	360	1,760
2nd	880	520	370	1,770
3rd	870	510	380	1,760
4th	830	530	380	1,730
5th	730	500	370	1,590
6th	360	360	390	1,110
Gender of dyads				
Both female	1,600	1,590	950	4,140
Both male	290	720	710	1,710
One male, one female	1,660	2,140	1,960	5,760
Race/ethnicity of dyads				
Both White, non-Hispanic	2,880	3,330	2,020	8,230
Neither White, non-Hispanic	140	280	600	1,030
White, non-Hispanic principal, minority teacher	260	400	320	980
Minority principal, White, non-Hispanic teacher	270	440	670	1,390

Note. All *n*s rounded to the nearest 10, in accordance with National Center for Education Statistics restricted data reporting standards.
a. Standard deviation.

training program reflect possible moderating events on satisfaction and commitment outcomes.

Teacher satisfaction, teacher perceptions of cohesion, and teacher commitment to teaching in their current school reflect the influential attitudes for positive school climates. Teacher satisfaction factors the scores of teachers' satisfaction with their amount of principal communication, recognition, support, and satisfaction with their class size, salary, and teaching. Teacher

Table 2. Descriptive Characteristics of Principals, Schools, Relationships, and School Climate

	M	*SD*	Min	Max
Principal characteristics				
Female	0.464		0	1
White, non-Hispanic	0.792		0	1
Age	50.474	7.942	26	70
Years as principal at this school	4.802	4.931	0	36
School characteristics				
Charter school	0.014		0	1
Urban	0.294		0	1
Suburban	0.428		0	1
Rural	0.279		0	1
Student enrollment	469.844	224.215	10	3,020
Free or reduced lunch %	45.589	28.521	0	100
Minority student %	37.110	32.644	0	100
Limited English proficiency %	7.504	14.899	0	100
Special education %	11.962	8.490	0	100
Proximal relationship characteristics				
Principal autonomy from district	2.375	0.926	1	4
Shared definition of expectations	3.450	0.728	1	4
Assistant principal	0.498		0	1
Principal training	0.498		0	1
Assistant principal and training	0.388		0	1
Power sharing of principal with teachers	2.083	0.495	0	3
Professional interactions	3.417	0.506	1	4
Distal individual outcomes				
Principal satisfaction	3.058	0.837	1	4
Principal cohesion perception	3.447	0.780	1	4
Principal commitment to school	3.346	0.639	1	4
Teacher satisfaction	2.996	0.639	1	4
Teacher cohesion perception	3.103	0.512	1	4
Teacher commitment to school	3.115	0.608	1	4

Correlation Matrix of Distal Outcomes of Satisfaction, Cohesion, and Commitment[a]

	Satisfaction	Cohesion	Commitment
Satisfaction	1.000	.716	.537
Cohesion	.417	1.000	.430
Commitment	.291	.171	1.000

Note. $N = 11{,}620$ relationships. All *n*s rounded to the nearest 10, in accordance with National Center for Education Statistics restricted data reporting standards.

a. Teachers' correlations appear above the diagonal; principals' correlations appear below the diagonal.

cohesion factors unified staff perceptions on schoolwide rule enforcement by teachers and principal, student horseplay and tardiness problems (reverse coded), school mission, cooperation and coordination between staff members, and teachers' (as a group) liking of and satisfaction with their principal. Teacher commitment factors questions related to intentions to switch careers (reverse coded), transfer schools (reverse coded), and remain in teaching. Only 60 cases were missing data after latent variable construction. These cases were listwise deleted from more than 11,600 cases.

Method and Analytic Technique

This study uses a two-phase design to investigate the simultaneous "role of the principal as an independent and a dependent variable" (Hallinger & Heck, 1996, p. 34). The first phase of the design tests the hypotheses about principal–teacher relationship effects on principal attitudes related to satisfaction, cohesion, and commitment levels. The second phase of the design tests the relationship effects from the perspective of the teachers with the principals' attitudes on teachers' attitudes.

To fully model the endogenous processes involved in the principal–teacher relationship effects in phase 1, this study employs structural equation modeling (SEM) techniques. SEM allows for the examination of the relationship process as a series of embedded, simultaneous processes between independent and dependent variables (Bollen, 1989). Using AMOS software, the overall effect of the variable on the entire relationship process and the separate effect of the variables on each portion of the process are assessed. This method best identifies the sequence of relational processes outlined by Lawler and Yoon (1996) and Burke et al. (2007), as illustrated in Figure 2. SEM deconstructs the relationship into the direct and indirect processes involved in improving satisfaction, cohesion, and commitment attitudes among principals. Effect sizes are comparable as all are reported as standardized coefficients.

Certain elements are theoretically exogenous to this affective relationship process being analyzed. These elements likely influence the relationship effects but are not embedded within them. Antecedents to trusting relationships, such as the expectancy theory ideas and the external district conditions, are important exogenous factors likely to influence the principal–teacher relationships. Also, personal trust dispositions, namely, principals' gender, racial/ethnic background, age, and years of principal experience, are controlled in the SEM modeling. Proper principal weights are also applied to the principal model.

For the SEM models, model fit statistics of chi-square, comparative fit indices (CFI), root mean square error of approximation (RMSEA), and

Akaike information criterion (AIC) are reported. In SEM, no significant difference between the observed and the model's covariance structures, as measured by the chi-square statistic, is desired. However, large data sets typically do not achieve this criterion, as the chi-square statistic is highly prone to Type II error (Garson, 2009). With large data sets, other significant fit statistics are appropriate to use if the chi-square discounts the model fit (Garson, 2009). The benchmarks for other significant fit statistics are CFI scores of .90 or greater, RMSEA scores of .05 or less, and decreasing AIC measures, given the change in the degrees of freedom (Kline, 1998).

To test the Phase 2 effects of the principal–teacher relationships on teacher outcomes, this study uses fixed effects linear regression modeling techniques. Table 1 shows that multiple dyads are coded in each school. Fixed effects modeling accounts for the correlated error terms among teachers who are matched to the same school principal. Linear regression also allows for the critical evaluation of the nested structure of the hypotheses for this section; the effects of the principal attitudes can be tested independently from the relationship effects. School variables of urbanicity, charter school status, size or enrollment, proportion of student body of color, poverty (free and reduced lunch), limited English proficiency, and special needs are controlled in the models to properly account for the between-school demographic variation that may otherwise influence the conclusions. To reflect national representation, teacher weights are applied in these models.

Results

Phase 1: Relationship Effects on Principals

The SEM model (see Figure 3) shows the relationship processes operating on the distal principal outcomes of satisfaction, cohesion, and commitment. Clearly, principal commitment levels are affected by the relationships that they have with their teachers. Proper weights and controls are applied in this model, but for presentation those effects and any β values less than .05 are not shown in Figure 3, although they will be discussed. The unconditional, direct effects conceptual model fits poorly on its own (χ^2 = 2601.902, p = .000, df = 30,[4] AIC = 2653.902, CFI = .818, RMSEA = .089). The saturated conceptual model fits better (χ^2 = 1356.582, p = .000, df = 10iv, AIC = 1428.582, CFI = .906, RMSEA = .094). When proper weights and controls are applied to the saturated conceptual model, fit dramatically improves but is still shy of convincing fit (χ^2 = 1124.159, p = .000, df = 40iv, AIC =

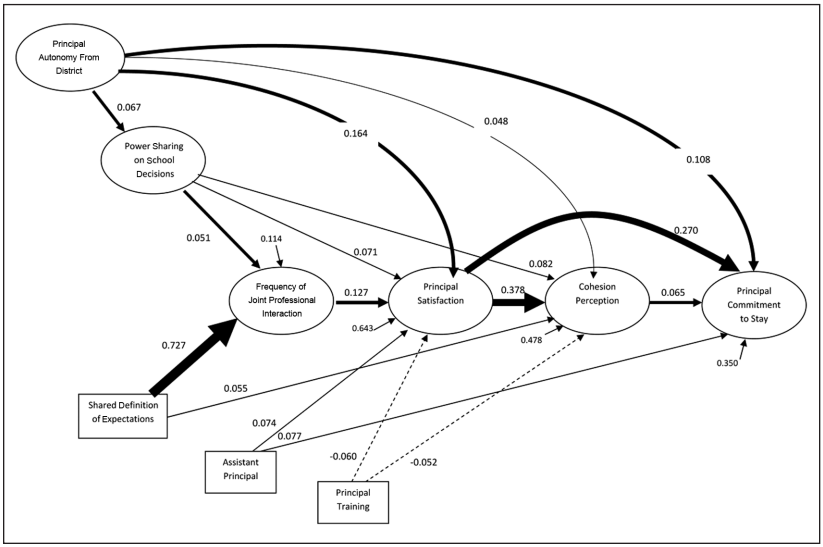

Figure 3. Reduced form model of principal–teacher relationship effects on principal attitudes

1324.159, CFI = .946, RMSEA = .052). The most efficient model of principal–teacher relationship effects is shown in Figure 3 (χ^2 = 1292.375, p = .000, df = 40iv, AIC = 1474.375, CFI = .938, RMSEA = .049). Most effects are modest, ranging from a standardized effect size of 0.05 to 0.11, but a few stand out as quite large. Appendix C shows the correlations of the endogenous and exogenous variables in the model.

The proximal relational trust outcomes between principals and their teachers produce higher levels of distal outcomes of satisfaction, cohesion, and commitment among principals. The frequency of interactions between principals and teachers directly increases principals' job satisfaction levels. Satisfaction levels go on to heavily influence perceptions of cohesion and commitment levels among principals. Every standard deviation increase in satisfaction (a 0.837 increase on a 1 to 4 scale) increases cohesion by 0.378 standard deviations and commitment by a total of 0.270 standard deviations.[5] Perceptions of faculty cohesion also directly influence commitment levels of principals, albeit a smaller effect than satisfaction.

Balancing power with teachers also improves the desired principal outcomes. Principals sharing power on school decisions increases the frequency of interaction between principals and teachers ($\beta = .051$) and thus magnifies the relationship effects on the individual outcomes. Sharing decision-making power with teachers also directly increases satisfaction and cohesion levels in principals by 0.071 and 0.082 standard deviations, respectively. Power sharing does not affect (total effect = 0.0001) commitment levels of the principal, however.

Sharing a definition of expectations has a large and direct influence on the frequency of joint professional interactions between principals and teachers. Moreover, the exchange frequency mediates the direct effect of definition of situation effects on cohesion. But shared definition of the situation does not directly influence the supervisors' satisfaction levels.

Principal preparations associated with aligning principal job expectations to the principal's real duties also moderate the relationship processes.[6] Specifically, prior assistant principal experience modestly boasts principal satisfaction and commitment levels. Principals who were programmatically trained experience a 5% standard deviation drop in satisfaction and cohesion levels as compared to principals who did not participate in such programs. If a principal participated in a program and was an assistant principal, the effects of principal preparation on satisfaction essentially cancel out.

The exogenous contextual influence of the district control looms over the proposed relationship and organizational processes. The amount of autonomy that districts allow principals over their school decisions moderates all outcomes related to school effectiveness. The autonomy of principals over their schools' decisions directly improves principals' levels of satisfaction, cohesion, and commitment to their school. In addition, the proximal relationship effects on these distal outcomes magnify with greater principal autonomy.

Principal characteristics of age, race/ethnicity, experience, and gender also explain a portion of the variance on these processes (see Appendix B). In general, the controls weakly enhance the amount of power sharing, professional interaction, satisfaction, cohesion, and commitment reports. White, non-Hispanic principals report significantly less professional interaction, $\beta = -.122$, and less commitment, $\beta = -.084$, but significantly higher levels of satisfaction, $\beta = .128$, and cohesion, $\beta = .117$. Female principals consistently pull up the relationship effects. Power sharing, professional interactions, and cohesion perceptions all experience a small boost from female principals ($\beta = .089$, $\beta = .078$, $\beta = .049$, respectively). Years of principaling at the school slightly raises power sharing, professional interactions, satisfaction, and cohesion levels. Aging decreases satisfaction ($\beta = -.129$) but increases commitment levels ($\beta = .164$).

Phase 2: Principal–Teacher Relationship Effects on Teacher Attitudes

Table 3 compares the teacher outcomes of satisfaction, cohesion, and commitment. The models clearly show the importance of the shared expectations on principal–teacher relationship effects on teachers' attitudes. In general, school and principal controls do little to moderate the relationship effects on teacher attitudes. But teachers at charter schools report higher satisfaction levels. The addition of the proximal relationship outcomes, most notably the shared definition of expectations, greatly improves the explained variation in the models from the prior models that included all the controls and the principal pretraining programs; explained variation on teacher satisfaction increases from 0.040 to 0.316 (Model 1), 0.076 to 0.332 on teacher cohesion (Model 3), and 0.030 to 0.095 on teacher commitment (Model 5) levels. The addition of the distal principal attitude outcomes to the models (Models 2, 4, 6) does little to explain more variation on teacher attitudes than the previous proximal relationship models.

Models 1–6 show that the endogenous processes illustrated in Figure 3 with principals operate much differently on teachers. Organizational context variables that strongly influenced the relationship processes for the principal attitudes are of less significance for teacher satisfaction, cohesion, and commitment levels. The amount of principal autonomy over schooling decisions mildly affects teacher satisfaction and cohesion levels but not commitment. Principal preparations, be they prior assistant principal experience and/or participating in a principal training program, do little to explain variation in the teacher attitudes. The frequency of interactions and degree of power sharing between principals and teachers affect subordinate teacher attitudes much less so than principal attitudes. On further investigation, many of these insignificant effects are accounted with the shared definition of expectations variable (see Appendix D). Without shared expectations, these other relationship variables are significant—indicating that models not accounting for shared definitions of expectations are likely underspecified. Clear expectations from the principal is one of the strongest influences on teacher attitudes.

Personal antecedents to trusting relationships are particularly influential variables on teacher attitudes. The dyadic composition influences the degree of trust building between principals and teachers. A dyad composed of a non-White, non-Anglo principal and teacher worsens the teacher's levels of satisfaction, cohesion, and commitment even after school conditions are controlled. In addition, cohesion levels worsen when male elementary teachers are paired with male principals and White, non-Hispanic teachers are paired with non-White, non-Anglo principals.

Table 3. Teacher-Level Fixed Effects Regression Models of Teacher Attitudes as a Function of Principal–Teacher Relationships and Principal Attitudes, Teacher Weights Applied

	Teacher Satisfaction		Teacher Cohesion		Teacher Commitment	
	(1)	(2)	(3)	(4)	(5)	(6)
School controls						
Urban	–0.046	–0.054*	–0.051*	–0.064*	0.053	0.052
	(0.027)	(0.025)	(0.025)	(0.025)	(0.030)	(0.030)
Charter school, public	0.103**	0.100**	0.040	0.029	–0.066	–0.070
	(0.034)	(0.035)	(0.049)	(0.048)	(0.041)	(0.043)
Enrollment per 100	–0.005	–0.005	0.000	–0.001	0.000	0.000
	(0.003)	(0.003)	(0.005)	(0.004)	(0.005)	(0.005)
Free and reduced lunch %	–0.001***	–0.001***	–0.002***	–0.002***	–0.002**	–0.002**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Minority student %	–0.001*	–0.001	–0.001*	–0.001	–0.001*	–0.001*
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Limited English proficiency %	0.002**	0.002**	0.001*	0.002**	0.002*	0.002*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Special education %	0.001	0.001	0.002	0.002	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Principal controls						
Age	–0.001	–0.001	–0.003**	–0.003*	–0.000	–0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Years as principal at this school	0.002	0.002	0.001	0.000	–0.003	–0.003
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)

(continued)

Table 3. (continued)

	Teacher Satisfaction		Teacher Cohesion		Teacher Commitment	
	(1)	(2)	(3)	(4)	(5)	(6)
Dyadic characteristics controlled						
Mixed gender dyads	−0.020	−0.019	−0.026	−0.025	0.009	0.009
	(0.015)	(0.015)	(0.016)	(0.016)	(0.020)	(0.020)
All male dyads	−0.047*	−0.046	−0.125***	−0.123***	−0.061	−0.060
	(0.024)	(0.024)	(0.022)	(0.023)	(0.038)	(0.039)
All non-White, non-Anglo dyads	−0.120***	−0.119***	−0.083*	−0.082*	−0.136**	−0.135**
	(0.032)	(0.034)	(0.037)	(0.038)	(0.042)	(0.042)
White, non-Hispanic principal and non-White teacher	−0.016	−0.016	0.013	0.011	−0.061	−0.062
	(0.037)	(0.037)	(0.035)	(0.035)	(0.042)	(0.042)
Non-White principal and White, non-Hispanic teacher	−0.032	−0.032	−0.089**	−0.085***	−0.016	−0.014
	(0.028)	(0.027)	(0.027)	(0.026)	(0.041)	(0.041)
Proximal relationship characteristics						
Assistant principal experience	−0.026	−0.025	−0.041	−0.041	−0.041	−0.043
	(0.022)	(0.022)	(0.022)	(0.021)	(0.028)	(0.028)
Principal training program	−0.006	−0.004	−0.040	−0.038	−0.017	−0.017
	(0.025)	(0.024)	(0.024)	(0.024)	(0.034)	(0.035)
Both AP and training program	−0.006	−0.010	0.026	0.024	−0.023	−0.021
	(0.032)	(0.032)	(0.031)	(0.031)	(0.041)	(0.041)
Principal autonomy	0.023*	0.019	0.019*	0.013	0.007	0.007
	(0.010)	(0.010)	(0.009)	(0.009)	(0.010)	(0.010)

(continued)

Table 3. (continued)

	Teacher Satisfaction		Teacher Cohesion		Teacher Commitment	
	(1)	(2)	(3)	(4)	(5)	(6)
Shared definition of expectations	0.409***	0.410***	0.371***	0.371***	0.221***	0.220***
	(0.016)	(0.016)	(0.013)	(0.013)	(0.021)	(0.021)
Power sharing	0.026	0.023	0.008	0.000	0.023	0.022
	(0.017)	(0.017)	(0.017)	(0.017)	(0.021)	(0.021)
Joint professional interactions	−0.032	−0.035	−0.022	−0.026	−0.013	−0.014
	(0.020)	(0.020)	(0.021)	(0.020)	(0.031)	(0.032)
Distal principal attitudes						
Principal satisfaction		0.018		0.015		−0.010
		(0.011)		(0.010)		(0.012)
Principal cohesion perception		0.007		0.033**		0.014
		(0.011)		(0.011)		(0.013)
Principal commitment to school		−0.003		−0.009		0.011
		(0.013)		(0.012)		(0.016)
Constant	1.863***	1.804***	2.284***	2.168***	2.566***	2.525***
	(0.090)	(0.103)	(0.095)	(0.099)	(0.102)	(0.107)
Observations	11,560	11,560	11,560	11,560	11,560	11,560
R^2	.316	.317	.332	.335	.095	.095

Note. *N* schools = 1,800. Standard errors in parentheses. All *ns* rounded to the nearest 10, in accordance with National Center for Education Statistics restricted data reporting standards.
*$p < .05$. **$p < .01$. ***$p < .001$.

Although teacher satisfaction and cohesion are quite correlated (.716, Table 2), the two measures are distinguished from each other. For example, the antecedents to trusting relationships, namely, the gender and racial/ethnic dynamic effects of the dyads, affect cohesion much more than satisfaction levels. The effect size for male elementary teachers paired with male principals is 3 times larger on cohesion than satisfaction; teacher cohesion perceptions decrease one fourth of a standard deviation with male–male relationships as compared to female–female pairs. Similarly, a White, non-Hispanic teacher experiences a one sixth decrease in cohesion perceptions when paired with a non-White, non-Anglo principal as compared to when the principal is White, non-Hispanic. These same dyadic compositions do not significantly affect teacher satisfaction or commitment levels.

Discussion

The presentation of results in this article began by delving deeper into the trusting relationship process that occurs between principals and their teachers. The proximal trust outcomes that form between principals and teachers affect both parties' individual attitudes. The effects on principals and teachers differ. One commonality is that sharing a definition of expectations is especially important for successful relationship outcomes.

Principals' attitudes are especially sensitive to exogenous influences on the relationships. As the trust literature would predict, the elements of the organizational relationship—from sharing power to perceptions of staff cohesion—influence the supervisors' satisfaction, cohesion, and commitment levels. In this natural school setting, proximal relational trust outcomes influence the satisfaction, sense of cohesion, and commitment behaviors of elementary school principals in the United States. Power dynamics moderate the effect sizes; as the power between principal and teachers balances, the size of the relational effects increases. In addition, the effect of cohesion on commitment behavior is small in imbalanced relations, as Lawler et al. (2006) find in their experiment. The autonomy allotted to the principal externally by the district administration enhances the relational effects. As the organizational literature proposed, personal satisfaction and cohesion levels of principals strongly predict their commitment to their organization. In this case, principal satisfaction is the strongest predictor of principal commitment to the school.

TVC effects, where principal preparation activities would potentially act as a moderator on job expectations and personality traits, show mixed results. Prior assistant principal experience slightly boosts principal satisfaction and commitment levels, while principals who participated in programmatic training

report lower levels of satisfaction and cohesion. These mixed results could be signaling the different effects from "on-the-job" versus "in-the-classroom" principal training effects. On-the-job training as an assistant principal seems to produce the effects expected under expectations state ideas. Or these results could be revealing that preprincipal training programs inflate principal expectations so that discouraging satisfaction and cohesion levels are reported. No matter the reason, none of these preparation activities translate into any significant influence on teacher attitudes.

When the scope of the study extends into the second phase of analysis, principals' relationships with their staff significantly improve teacher satisfaction, cohesion, and commitment. The individual principal attitudes do not directly influence teacher outcomes. Again, to borrow from Bryk and colleagues (2010), the attitudes of the "head chefs" (principals) matter less so than the quality of the positive work environment recipe. For teachers, the relationship, especially the role of shared expectations, matters and the principals' individual distal outcomes do not. It is likely that the lack of significant principal attitude effects on the teachers is the result of the weak influence of supervisor on subordinate attitudes and behaviors (Lease, 1998; Singh & Billingsley, 1998). In another article, I find that the aggregate coworker (teacher) distal outcomes do significantly and positively influence individual teacher attitudes (Price & Collett).

This study's particular focus on the principals' role in staff relationships helps explain the effects of differential power dynamics on relational trust outcomes. This study helps to clarify how supervisor–subordinate relationships promote attitudes to improve the work environment. In the case of schools, teacher attitudes improve when principal–teacher relationships in schools create positive, intrinsic affective responses among the staff (Bryk et al., 1993; Bryk et al., 2010; Coleman & Hoffer, 1987). Principals are central to this process.

Study Limitations

This study explains the relational mechanisms that create variation in individual attitudes associated with positive school climates. However, caution should be applied when considering the scope of this project. Staff relationships are only one aspect influencing school climate. Other nontrivial aspects, such as staff–student and staff–parent relationships, city–district politics, school building conditions, and neighborhood conditions, also contribute to school climate. Similarly, organizations are diverse entities. The public nature of schools investigated in this article especially distinguishes schools from other typical organizations. Basic tenets of organizational theories on

workplace commitment appear to hold in the school setting. But other organizational theories on efficiency or "product" quality are unlikely to operate similarly in school organizations since the tenets underlying efficiency and quality theories assume material products. Material products are not equivalent to the goal of educating children.

As a second limitation to this study, the processes described here have an obvious nonrecursive nature where staff relationships affect the organizational climate and the organizational climate then feeds back to influence the relationships among staff. The laboratory and organizational theories also acknowledge this. Unfortunately, the SASS survey assesses the teacher and principal attitudes only cross-sectionally at one point in time in the year. Although it would be possible to minutely parse out responses within a school by the day and time of survey completion, it would be difficult to justify that any differences found between a few days of survey completion would be reliable measures of real change rather than random error. A nonrecursive analysis between school years would also be unreliable with these data since 4 years elapse between SASS surveys. In any case, the existence of this feedback loop would only enhance the theoretical importance of the relational trust effects between principals and teachers on the school climate.

Third, this study does not focus on the intrinsic psychological factors that may also exogenously influence commitment levels. Previous studies have cited the influence of teacher self-efficacy on their commitment to teaching and their school (Bogler & Somech, 2004; Lee et al., 1991; Rosenholtz, 1989). Self-efficacy affects the learning environment of the students and the school climate (A. W. Hoy et al., 2008; Rosenholtz, 1989; Tschannen-Moran & Hoy, 2000). Intrinsic factors, such as efficacy, are important, but these constructs capture many nonschool influencers as compared to the variables analyzed here. Consequently, they are less readily able to be managed by principals and administrators to improve school climate.

Fourth, more dimensions of positive affect are discussed in the social psychology literature than are empirically tested in this study. Interest, for example, is an affective dimension relevant to these theories. Interest level is captured adequately on the SASS teacher survey, but it is not captured well on the principal survey. The principal survey question does ask, "I don't have as much enthusiasm now as I did when I began my career as a principal." This question is not used for three reasons. First, it confounds effects of the U-turn age effects on job satisfaction, as cited in the literature (Clark, Oswald, & Warr, 1996). Second, the relative time element, "as I did when I began my career," could produce heteroscedastic error terms on the measure, depending on the principal's experience level. It is easy to imagine that a newer

principal's answer would likely be less reliable as compared to that of a principal with decades of experience. Third, the one-dimensionality of this question weakly operationalizes the "interest" concept outlined by the social psychology studies of Lawler and Yoon (1996, 1998). In the companion study to this one where teacher commitment is tested, teacher interest is included as a second positive affective dimension because it is more accurately measured (Price & Collett).

As a final limitation, schools are sometimes cited as organizational anomalies because of the weak power related to the hierarchical role structure in schools. Some may argue that they may be a poor choice of organization in which to test these relational trust theories. However, the bureaucratic structure of traditional American public schools makes them natural organizational places to test these laboratory-based social psychological theories. Even if they are somewhat anomalistic, the reliance of schools on informal relations makes trust an even more critical component for organizational functioning (Bryk et al., 2010; Bryk & Schneider, 2002; Tschannen-Moran & Hoy, 2000). Since schools are organizations in need of serious reform, if organizational theories on workplace climates can help scholars understand how to improve school work environments, then it appears to be a viable case in which to apply these theories.

Further Research

This study finds a significant influence of principal–teacher relationships on principal and teacher attitudes. Teacher attitudes are not contingent on the resultant principal attitudes from the relationships. Organizational research explains that workers' affective attitudes are more influential on attitudes of coworkers of the same rank than on supervisor attitudes (Lease, 1998). Since the principal occupies a supervisory position over teachers, it is not surprising that principal attitudes are of little influence on teachers. The effect of the other coworker teachers' attitudes on individual teachers would be more likely, as Singh and Billingsley (1998) previously found. In a companion article, this question is explored (Price & Collett).

In addition, the gender control variables were of note for this study and warrant further investigation. In the principal attitudes models, female principals reported slightly higher levels of cohesion and commitment. This finding aligns with past organizational studies that have found females tend to report higher levels of job commitment overall (Abbott, 1993). Theories on the influence of relative perception (women comparing themselves to other women)

and lower economic expectations have been purported but not verified. Given that the sample for this study is limited to elementary schools that are heavily staffed by females, the "female" significance may also be a homophily effect. Gender homogeneity coupled with a majority status within the principal–teacher relationships may also explain the higher reports of cohesion. In addition, when the dyads are all female, these teachers report better attitudes.

Policy Implications and Conclusions

The literature shows that principals directly influence in-school processes more so than outcomes (Hallinger & Heck, 1996, 1998). Hallinger and Heck (1996) call researchers to "attend to the conditions under which this [principal] effect is achieved" (p. 37). Leadership and expectancy theories explain how this happens. The school climate and school effectiveness literature shows trusting relationships matter and that the corresponding satisfaction, cohesion, and commitment levels positively influence school climate and student learning (Bryk et al., 2010; Cohen et al., 2009; Goddard et al., 2007; Hallinger & Leithwood, 1994; Rosenholtz, 1985, 1989). This article brings these studies together.

An emphasis on positive school climates has been a focus of policy makers and practitioners since the 1980s (see Bryk & Driscoll, 1988; Rosenholtz, 1985). Today, with the reauthorization of NCLB being drafted, research in this field is of the utmost importance. Research shows that strong school cultures and norms help students learn (Bryk et al., 1993; Bryk & Schneider, 2002; Coleman & Hoffer, 1987) and keep them from failing (Bryk & Thum, 1989). School climates influence teachers' self-efficacy perceptions, which, in turn, influence their teaching abilities (Rosenholtz, 1985, 1989; Wahlstrom & Louis, 2008). Positive student and collegial relationships increase individual teacher and administrative levels of satisfaction with their jobs (Dinham & Scott, 1998). Teacher job satisfaction and commitment are vital to student learning (Hulpia et al., 2009; Rosenholtz, 1985, 1989). Supportive and cohesive leaders strongly predict teacher commitment levels (Firestone & Wilson, 1985; Hulpia et al., 2009). Therefore, one way to improve learning in schools is to focus on improving the relationships between principals and their staff that produce satisfied and committed, and therefore more effective, teachers. The benefits from trust and affective ties are central in this relationship process.

Individual satisfaction, cohesion, and commitment levels are important variables to study because the benefits from positive affect of individual workers spill over to benefit workplaces and organizations (see review by

Brief & Weiss, 2002). Workplace production increases when individuals are satisfied and committed to their job (Brief & Weiss, 2002). For schools, this would imply that principal and teacher attitudes would ripple out to enhance the learning environment in schools. Positive attitudes are contagious—when individuals working around other workers are satisfied with their job, other worker attitudes improve (Brief & Weiss, 2002). If a majority of workers are satisfied and committed to their work, further benefits occur. Not only production but also quality of the work improve when workers feel positively toward their job (Brief & Weiss, 2002). It is likely that schools with higher average job satisfaction ratings among staff would positively influence school learning climates.

A large proportion of variance on teacher attitudes is accounted with the principal–teacher relationship process. The explicit definition of teacher expectations by principals could be a highly effective strategy to improve attitudes among school staff. Joint principal and teacher professional activities expedite the expectation effects. Attention to these relationships could reduce serious costs incurred by schools, school districts, and their students that occur from exorbitant rates of teacher attrition (Barnes, Crowe, & Schaefer, 2007). Building positive staff relationships could be a tangible policy initiative where proven methods in relationship building could be instituted by districts to promote positive staff exchanges.

Last, there is a national crisis of principal shortage in the U.S. primary and secondary education sector (Viadero, 2009). It is speculated that part of this shortage is the result of the era of accountability that appears to have tilted the motivational forces behind teachers becoming principals from intrinsic to extrinsic ones (Newton et al., 2003). If the social psychological and organizational theories on affect, relationships, and job satisfaction are correct, this may provide policy makers and school district administrators methods with which to attract and retain good principals and improve school learning climates. The strong, consistent effect of principal control over school decisions gives reason for district administrators to reconsider the management capabilities of their principals. Principals with more autonomy have higher satisfaction and commitment levels, form better relationships with their staff, and improve school climate. It is important for school effectiveness that principals are in positions to determine the vision and goals of their school, as Goldring and Pasternack (1994) suggest. This includes giving principals enough agency over their schools so that they can build effective, trusting, affective relationships with their staff. School climates can benefit from good principal management.

Appendix A

Descriptive Statistics: Factor Scale Questions and Reliability Coefficients

Latent Concept	Likert Range	Questions From Schools and Staffing Survey
Power sharing	0–3	Additive scale from principal survey as to whether or not the principal rated principal and teachers as having equal influence on "establishing curriculum at the school, determining the content of in-service professional development programs for teachers at this school, evaluating teachers at this school, hiring new full-time teachers at this school, setting discipline policy at this school, deciding how your budget will be spent" (Principal Survey 15b–g; $\alpha = .550$).
Shared definition of expectations	1–4	Teachers' survey response to the question, "The principal lets staff members know what is expected of them" (response categories reverse coded so that higher rating signals more agreement with the statement; Teacher Survey 63a).
Frequency of joint professional exchanges	1–4	Principal rating of, "In the past 12 months, how often have you participated in professional development activities WITH TEACHERS from THIS school"; answer choices are 0, 1–2, 3–5, and 6 or more activities (Principal Survey 22).
Principal autonomy	1–4	Factor scale of, "Are the following considered barriers to the dismissal of poor-performing or incompetent teachers at this school: personnel policies, termination decisions not upheld, length of time required for termination process, effort required for documentation, tight deadlines for completing documentation, tenure, teacher associations or unions" (Principal Survey 25a–g; $\alpha = .772$).
Principal satisfaction	1–4	"I like the way things are run in this district" (Principal Survey 13c).
Cohesion perception	1–4	"The faculty and staff at this school like being here; I would describe them as a satisfied group" (Principal Survey 13b).
Principal commitment	1–4	Factor scale of, "The stress and disappointments involved in serving as principal of this school aren't really worth it" (RC), "If I could get a higher paying job, I'd leave education as soon as possible" (RC), and "I think about transferring to another school" (RC; Principal Survey 13a, 13d, 13e; $\alpha = .615$).

(continued)

Appendix A (continued)

Latent Concept	Likert Range	Questions From Schools and Staffing Survey
Teacher satisfaction	1–4	Factor score of, "To what extent do you agree: 'I am satisfied with my teaching salary,' 'The principal knows what kind of school he/she wants and has communicated it to the staff,' 'In this school, staff members are recognized for a job well done,' 'I am satisfied with my class size,' 'I am given the support I need to teach students with special needs,' 'I sometimes feel it is a waste of time to try to do my best as a teacher' (RC), 'I am generally satisfied with being a teacher at this school,' 'I like the way things are run at this school'" (Teacher Survey 63c, 63k, 63m, 63p, 63q, 63t, 63u, 66c; $\alpha = .739$).
Teacher cohesion	1–4	Factor score of, "To what extent do you agree: 'The school administration's behavior toward the staff is supportive and encouraging,' 'The level of student misbehavior in this school (such as noise, horseplay or fighting in the halls, cafeteria or student lounge) interferes with my teaching' (RC), 'My principal enforces school rules for student conduct and backs me up when I need it,' 'Rules for student behavior are consistently enforced by teachers in this school, even for students who are not in their classes,' 'Most of my colleagues share my beliefs and values about what the central mission of the school should be,' 'There is a great deal of cooperative effort among the staff members,' 'I make a conscious effort to coordinate the content of my courses with that of other teachers,' 'The amount of student tardiness and class cutting in this school interferes with my teaching' (RC), 'The teachers at this school like being here,' 'I would describe us as a satisfied group'" (Teacher Survey 63b, 63d, 63h, 63i, 63j, 63l, 63r, 63s, 66b; $\alpha = .777$).
Teacher commitment	1–4	Factor score of, "The stress and disappointments involved in teaching at this school aren't really worth it" (RC), "If I could get a higher paying job, I'd leave education as soon as possible" (RC), "I think about transferring to another school" (RC), "If you could go back to your college days and start over again, would you become a teacher or not" (RC), "How long do you plan to remain in teaching" (RC; Teacher Survey 66a, 66d, 66e, 67a, 67b; $\alpha = .609$).

Note. RC = reverse coded.

Appendix B

Standardized Direct Effects of Principal Control Variables on Relationship Variables of Interest

	Shared Definition of Expectations	Assistant Principal	Principal Training	Power Sharing	Professional Interaction	Principal Satisfaction	Principal Cohesion	Principal Commitment
Female	0.020	–0.112	0.077	0.089	0.078	*ns*	0.049	0.033
Age, in years	–0.046	0.098	0.069	0.039	0.042	–0.129	–0.030	0.164
White, non-Hispanic	0.023	–0.162	–0.220	0.043	–0.122	0.128	0.117	–0.084
Years principal at this school	0.025	–0.153	–0.075	0.071	0.049	0.073	0.098	*ns*
Charter school	*ns*	*ns*	–0.027	*ns*	*ns*	*ns*	*ns*	–0.037

Appendix C

Correlation Matrix of Endogenous and Exogenous Variables in Structural Equation Models

	1	2	3	4	5	6	7	8	9	10
1. Assistant principal experience	1.000									
2. Principal training program	.135	1.000								
3. Both AP and training program	.500	.799	1.000							
4. Principal autonomy	−.116	−.044	−.096	1.000						
5. Shared definition of expectations	.005	.013	.010	.052	1.000					
6. Power sharing	−.080	.025	−.026	.083	.013	1.000				
7. Joint professional interactions	.011	.086	.081	.011	.725	.070	1.000			
8. Principal satisfaction	.006	−.085	−.056	.184	.040	.092	.065	1.000		
9. Principal cohesion perception	−.016	−.110	−.137	.149	.075	.131	.051	.418	1.000	
10. Principal commitment to school	.085	.047	.078	.149	.035	.040	.116	.292	.171	1.000

Appendix D

Partial Fixed Effects Regression Models of Shared Expectations on Teacher Outcomes

	Teacher Satisfaction			Teacher Cohesion			Teacher Commitment		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
School controls									
Urban	–0.047	–0.058	–0.054*	0.055	–0.068*	–0.064*	–0.055*	0.049	0.052
	(0.027)	(0.037)	(0.025)	(0.030)	(0.034)	(0.025)	(0.024)	(0.033)	(0.030)
Charter status	0.098**	0.052	0.100**	–0.075	–0.014	0.029	0.043	–0.096*	–0.070
	(0.032)	(0.047)	(0.035)	(0.041)	(0.053)	(0.048)	(0.048)	(0.044)	(0.043)
Enrollment per 100	–0.005	–0.008*	–0.005	0.000	–0.003	–0.001	–0.000	–0.001	0.000
	(0.003)	(0.004)	(0.003)	(0.005)	(0.005)	(0.004)	(0.005)	(0.005)	(0.005)
Free and reduced lunch %	–0.001***	–0.002***	–0.001***	–0.002**	–0.003***	–0.002***	–0.002***	–0.002***	–0.002**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
Minority student %	–0.001*	–0.001	–0.001	–0.001*	–0.001	–0.001	–0.001*	–0.001*	–0.001*
	(0.000)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Limited English proficiency %	0.002**	0.002**	0.002**	0.002*	0.002**	0.002**	0.002*	0.002*	0.002*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Special education %	0.000	0.001	0.001	0.001	0.002	0.002	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Principal controls									
Age	–0.001	–0.001	–0.001	–0.000	–0.003*	–0.003*	–0.003**	–0.001	–0.000
	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Years principal at this school	0.002	0.000	0.002	–0.003	–0.001	0.000	0.001	–0.004	–0.003
	(0.002)	(0.003)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.003)	(0.002)

(continued)

Appendix D (continued)

	Teacher Satisfaction			Teacher Cohesion			Teacher Commitment		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dyadic characteristics controlled									
Mixed gender dyads	–0.021	–0.006	–0.019	0.009	–0.013	–0.025	–0.027	0.016	0.009
	(0.015)	(0.019)	(0.015)	(0.020)	(0.019)	(0.016)	(0.016)	(0.020)	(0.020)
All male dyads	–0.050*	–0.043	–0.046	–0.063	–0.121***	–0.123***	–0.127***	–0.059	–0.060
	(0.023)	(0.033)	(0.024)	(0.038)	(0.032)	(0.023)	(0.022)	(0.043)	(0.039)
All non-White, non-Anglo dyads	–0.130***	–0.137**	–0.119***	–0.141***	–0.098	–0.082*	–0.091*	–0.145**	–0.135**
	(0.031)	(0.048)	(0.034)	(0.042)	(0.050)	(0.038)	(0.038)	(0.046)	(0.042)
White principal and non-White teacher	–0.022	–0.031	–0.016	–0.064	–0.003	0.011	0.008	–0.070	–0.062
	(0.036)	(0.041)	(0.037)	(0.042)	(0.038)	(0.035)	(0.035)	(0.042)	(0.042)
Non-White principal and White teacher	–0.038	–0.083*	–0.032	–0.019	–0.132***	–0.085***	–0.092***	–0.042	–0.014
	(0.029)	(0.040)	(0.027)	(0.042)	(0.035)	(0.026)	(0.027)	(0.044)	(0.041)
Relationship characteristics									
Assistant principal experience	–0.024	0.010	–0.025	–0.041	–0.010	–0.041	–0.039	–0.024	–0.043
	(0.023)	(0.027)	(0.022)	(0.028)	(0.024)	(0.021)	(0.021)	(0.029)	(0.028)
Principal training program	–0.003	–0.004	–0.004	–0.016	–0.038	–0.038	–0.038	–0.018	–0.017
	(0.024)	(0.029)	(0.024)	(0.034)	(0.029)	(0.024)	(0.024)	(0.035)	(0.035)
Both AP and training program	–0.011	–0.017	–0.010	–0.025	0.017	0.024	0.022	–0.025	–0.021
	(0.032)	(0.040)	(0.032)	(0.041)	(0.038)	(0.031)	(0.031)	(0.043)	(0.041)
Shared definition of expectations	0.394***		0.410***	0.215***		0.371***	0.361***		0.220***
	(0.012)		(0.016)	(0.013)		(0.013)	(0.009)		(0.021)
Principal autonomy		0.029*	0.019		0.023	0.013		0.012	0.007
		(0.013)	(0.010)		(0.012)	(0.009)		(0.011)	(0.010)

(continued)

Appendix D (continued)

	Teacher Satisfaction			Teacher Cohesion			Teacher Commitment		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Power sharing		−0.012	0.023		−0.031	0.000		0.003	0.022
		(0.022)	(0.017)		(0.022)	(0.017)		(0.023)	(0.021)
Joint professional interactions		0.382***	−0.035		0.352***	−0.026		0.211***	−0.014
		(0.026)	(0.020)		(0.022)	(0.020)		(0.022)	(0.032)
Principal attitudes									
Principal satisfaction		0.001	0.018		0.000	0.015		−0.019	−0.010
		(0.015)	(0.011)		(0.014)	(0.010)		(0.013)	(0.012)
Principal cohesion perception		0.020	0.007		0.045**	0.033**		0.021	0.014
		(0.017)	(0.011)		(0.016)	(0.011)		(0.014)	(0.013)
Principal commitment to school		−0.017	−0.003		−0.021	−0.009		0.004	0.011
		(0.018)	(0.013)		(0.016)	(0.012)		(0.017)	(0.016)
Constant	1.905***	1.976***	1.804***	2.600***	2.324***	2.168***	2.303***	2.617***	2.525***
	(0.071)	(0.125)	(0.103)	(0.093)	(0.125)	(0.099)	(0.075)	(0.112)	(0.107)
Observations	11,560	11,560	11,560	11,560	11,560	11,560	11,560	11,560	11,560
R^2	.314	.171	.317	.094	.203	.335	.331	.062	.095

Note. Standard errors in parentheses.
*$p < .05$. **$p < .01$. ***$p < .001$.

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Notes

1. The organizational structure of traditional public schools is similar to that of most bureaucratic organizations (Meyer & Rowan, 1977; Rowan, 1990). The roles and duties of the workers in schools are clearly defined by legitimate, long-standing institutional rules, schemes, and norms (Meyer & Rowan, 1977; Rowan, 1990).
2. There is some lack of agreement in the literature as to whether to discuss outcomes of satisfaction, cohesion, and commitment as attitudes or behaviors. For the purposes of this article, these outcomes are discussed as attitudes since they are measured from self-reported questionnaires and not administrative reports of actual behaviors or actions.
3. Teachers are matched to the administrator who identified herself or himself as the school principal and completed the Schools and Staffing Survey Principal Survey. Assistant principals are not matched to teachers.
4. In accordance with National Center for Education Statistics restricted data reporting standards, degrees of freedom are rounded to the nearest 10.
5. Total effects are calculated by adding the direct effects of the IV to the DV to the indirect effects multiplier. For satisfaction effects on commitment, the total effect = $0.273 + (0.369 \times 0.065)$.
6. Structural equation modeling does not show principal preparation to mediate definition of situation effects (results not shown here); definition of the situation did not vary by principal preparation. Rather, principal preparation measures moderate the overall relationship effects independent of definition of the situation.

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