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What Are the Different Types of Principals Across the United States? A Latent Class Analysis of Principal Perception of Leadership

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Abstract

Purpose: Effective styles of principal leadership can help address multiple issues in struggling schools, such as low student achievement and high rates of teacher attrition. Although the literature has nominated certain "idealized" leadership styles as being more or less effective, such as transformational, instructional, and shared instructional leadership, we have little evidence about how principals may or may not choose to practice these styles across U.S. schools.

Research Design: Latent class analysis was used to identify different types of principals across the United States. We analyzed the 1999-2000 Schools and Staffing Survey as it presents a unique opportunity to study the different types of U.S. principals since it contains leadership measures not found in other national surveys. A final sample of 7,650 public schools and principals was included in the analysis.

Findings: Instead of idealized leadership styles signifying variations in practice, the differences between types of principals were defined by the degree of principal and teacher leadership. Further, the school and principal

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context, such as school size, urbanicity, accountability performance, and principal background, predicted the three significantly different principal types: *controlling*, frequent principal leadership; *balkanizing*, high degree of leadership shared with teachers; or *integrating*, frequent principal leadership as well as a high degree of leadership shared with teachers.

Conclusions: These types suggest that principals simultaneously practice leadership behaviors associated with multiple leadership styles in accordance with their background and school context. These findings provide support for the use of more complex models to assess school leader effectiveness.

Keywords

leadership styles, instructional leadership, transformational leadership, leadership effectiveness, latent class analysis

Review of Literature

Over the past two decades, the study of school leadership has shifted from a focus on traditional, top-down forms of instructional leadership to instructional leadership that is shared with teachers (Blase & Blase, 1999; Hallinger, 2003; Rowan 1990; Spillane, Hallett, & Diamond, 2003). In fact, shared instructional leadership has been found to have the largest leadership effect on student academic growth (Heck & Hallinger, 2009; Marks & Printy, 2003; Robinson, Lloyd, & Rowe, 2008). This shift to more collective or distributed leadership promotes a restructuring of schools (Marks & Louis, 1999). The principal is no longer solely responsible for leading the instructional program within schools, but rather, the principal provides direction and support to teachers in order to actively distribute this responsibility among these instructional experts. Due to this conception of a restructuring of leadership in schools over time, little is known about the ways in which principals across the United States have adjusted their leadership to engage teachers in the practice of school leadership (Harris, Leithwood, Day, Sammons, & Hopkins, 2007; Mayrowetz, 2008; Spillane, 2006; Spillane et al., 2003). To date, while much of the research has focused on teacher perceptions of leadership, little research has been done to examine principal perceptions of their own leadership practice and how those practices, in combination with school context, help to develop school conditions that support the inclusion of teachers as instructional leaders (Evans, 2010; Leithwood & Jantzi, 2008; Urick & Bowers, 2011, in press).

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Importance of Principal Perception

Principal perception and, in turn, principal behavior determine the extent to which school leaders influence organizational change for student improvement. Reviews of the past research on the degree of principal influence on students have shown that principals indirectly affect student learning through teachers (Hallinger & Heck, 1996, 1998). However, principals who decide to develop and share leadership with teachers build school capacity, which positively contributes to academic growth (Hallinger & Heck, 2010; Heck & Hallinger, 2009; Leithwood & Mascall, 2008). Furthermore, this change in school capacity serves as a catalyst for additional reciprocal effects from experiencing academic growth to subsequent advances in shared leadership (Hallinger & Heck, 2011). Principals increase the extent of their influence over school improvement by sharing leadership with teachers.

Although shared instructional leadership operates in a decentralized structure, a principal, in a position of formal authority, guides its development and distributes responsibility to teachers (Hallinger & Murphy, 1986; Leithwood & Jantzi, 1999, 2000; Marks & Louis, 1999). With this guidance, principal leadership directly influences teacher community as well as instruction (Louis et al., 2010; Supovitz, Sirinides, & May, 2010). Principals improve teacher practice through supportive managerial tasks, such as hiring, spending, and an orderly climate, but more importantly, principals shape instruction through the establishment of a school climate and the frequent communication of a common mission and vision (Firestone & Wilson, 1985; Hallinger & Heck, 2001). Firestone and Wilson (1985) argued for a distinction between these managerial tasks compared to other behaviors that build a positive academic climate within the school.

In more recent studies, leadership behaviors that contribute to a creation of a school climate have been found to have an increased influence on teacher and student outcomes compared to managerial tasks (Hoy & Hannum, 1997; Hoy, Sweetland, & Smith, 2002; Hoy, Tarter, & Bliss, 1990; Hoy, Tarter, & Woolfolk Hoy, 2006; Urick & Bowers, in press; Werblow, Urick, & Duesbery, 2013). In a meta-analysis of studies on the impact of different leadership styles on student outcomes, Robinson et al. (2008) identified five core measures of effective leadership behaviors, which included establishment of goals, promoting and participating in teacher development, planning, coordinating and evaluating instruction and managerial tasks of resourcing, and creating a safe and orderly environment. A focus on school climate, goals, coordination of curriculum, and promotion of teacher development appear to produce the largest effects on student outcomes (Robinson et al., 2008). However, out of the 27 studies included in the meta-analysis, the majority of

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measures analyzed were limited to teacher perceptions even though it is the principal and, in turn, principal perception that directs these actions within the school. To date, few studies have investigated leadership styles of principals using principal perception (Leithwood & Jantzi, 2008; Urick & Bowers, 2011, in press). Leithwood and Jantzi (2008) recommend that "subsequent research about leader efficacy [as measured by principal perception of their own leadership] should attend to the stylistic differences in the enactment of core leadership practices" (p. 522).

Principals who perform core leadership behaviors, such as communication of a mission, providing professional development, and coordination of instruction, may not apply them to their context with the same technique (Leithwood, Harris, & Hopkins, 2008; Ylimaki & Jacobson, 2013). Further, principals across different schools who apply these core leadership behaviors with similar tasks or activities produce different results with teachers and students (Hallinger & Heck, 2010). While we recognize common, basic leadership behaviors, there is evidence to suggest that they are broadly similar across contexts and uniquely defined by the actions that leaders perceive as necessary to respond to specific student, teacher, and community needs in order to promote system change (Hargreaves, Halász, & Pont, 2007; Hopkins & Higham, 2007; Ishimaru, 2013; Leithwood, Patten, & Jantzi, 2010; Moolenaar, Daly, & Sleegers, 2010).

Further investigation into principal perceptions of their leadership would explain the ways in which principals decide to enact these core effective leadership behaviors to navigate their particular context for increased student outcomes through the involvement of teachers in the leadership of a positive school climate. Prominent leadership styles, such as transformational, instructional, and shared instructional leadership, possibly represent these differences across principals. However, we argue that a conceptual comparison of these leadership styles demonstrates substantial overlap rather than a description of differences in practice.

Transformational Leadership

Transformational leadership in education is often measured by the degree that a principal communicates a mission, encourages development, and builds community (Bogler, 2001; Hallinger, 2003; Leithwood, Leonard, & Sharratt, 1998; Nguni, Sleegers, & Denessen, 2006; Thoonen, Sleegers, Oort, Peetsma, & Geijsel, 2011). With a strong climate that includes a clear mission with support, teachers are motivated to contribute to the improvement of the school (Thoonen et al., 2011). Transformational leadership engages and empowers teacher involvement in school leadership (Geijsel, Sleegers,

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Leithwood, & Jantzi, 2003). This climate and the involvement of teachers are conditions under which innovation occurs (Bass, 1985; Burns, 1978; Moolenaar et al., 2010). Two main conceptual frameworks of transformational leadership are used in education research that provide a more detailed description of the ways in which principals have created this climate that leads to teacher involvement and innovation. The concept of transformational leadership was developed in the business literature as a means for transforming organizations (Bass, 1985; Bass & Avolio, 1993; Burns, 1978) and was transferred into the context of schools as a strategy to support reform (Leithwood, 1994; Leithwood & Jantzi, 2000).

First, Burns (1978), Bass (1985), and Bass and Avolio (1993) describe transformational leadership as a valuing of organization and members over self, in contrast to transactional leadership, in which leaders attend to managerial tasks. A transformational leader, in opposition to a leader who manages resources and closely monitors staff or fails to intervene (Bass & Avolio, 1990), instead encourages development and training through "the four *I*'s," which include *individualized consideration* (motivates workers with self-worth and recognition to act in the interest of the organization), *intellectual stimulation* (provides a focus on development), *inspirational motivation* (builds community and leaders), and *idealized influence* (builds and engages others in a mission) (Bass, 1985; Bass & Avolio, 1993). These four components guide the restructuring of organizations to develop followers, or teachers, as leaders for increased effectiveness (Bass & Avolio, 1993).

In the second conceptual framework, Leithwood (1994) and associates (Leithwood & Jantzi, 2000; Leithwood & Sun, 2012) extended the conceptualization of transformational leadership for school leaders to six factors: building school vision and goals, providing intellectual stimulation, offering individualized support, modeling professional practices and values, demonstrating high performance expectations, and developing structures to foster participation in school decisions. Leithwood and Jantzi (2000) and Leithwood and Steinbach (1995) emphasize that these transformational leadership behaviors consist of problem-solving processes to further promote organizational change and improvement.

Transformational leadership restructures and prepares schools for an increase in shared leadership with improved opportunities for innovation and change (Bass & Avolio, 1993; Moolenaar et al., 2010). Principals who are transformational leaders offer teachers a climate with a mission, professional growth, and a sense of community. Transformational leadership is focused on developing people and the organization, which improves outcomes (Bogler, 2001; Hallinger, 2003). Nevertheless, for schools, the

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concept of transformational leadership has been expanded to include added responsibilities for the principal around facilitating the improvement of daily instructional tasks of teachers, known as instructional leadership (Hallinger, 2005).

Instructional Leadership

Instructional leaders work directly with teachers to guide the curriculum and instruction (Cuban, 1984; Edmonds, 1979; Hallinger, 2005). In early research, instructional leaders were described as heroic principals who improve failing schools (Edmonds, 1979; Hallinger & Murphy, 1985). More specifically, Hallinger and Murphy (1985) defined instructional leadership as *defining the school mission* (setting and communicating goals), *managing the instructional program* (evaluating instruction, coordinating curriculum and monitoring student progress), and *creating a positive school climate* (protecting instructional time, promoting professional development, maintaining visibility, and providing incentives). These leadership behaviors closely resemble descriptions of transformational leadership with an expanded focus on the instructional program.

Hallinger (2003, 2005) postulated two main differences between instructional and transformational leadership. First, in transformational leadership, teachers and other staff perform instructional tasks as their designated role. Transformational principals do not practice the guidance of curriculum and instruction or the monitoring of student learning. Second, transformational leaders spend more time directly building community through support of the needs of teachers and the community and through transfer of school goals to personal goals. Instructional leaders build a positive climate through professional development and coordination and attainment of instructional goals. However, unlike transformational leaders, instructional leaders do not work to build a climate. Instead, in instructional leadership, a positive climate is an indirect result of a common and successful focus on instruction. Shared instructional leadership, which stemmed from critiques of instructional leadership as bureaucratic and principal centered (Hallinger, 2003; Rowan, 1990), includes more direct measures of the ways in which teacher community and teacher leadership are developed (Berliner, 1986; Mangin, 2007; Printy, 2008; Printy, Marks & Bowers, 2009; Rowan, 1990).

In sum, transformational leadership is a precursor for a distributed (Harris, 2004; Spillane et al., 2004) or shared form of instructional leadership (Marks & Printy, 2003; Printy et al., 2009). Transformational leadership promotes increased engagement of teachers (Marks & Louis, 1999), while instructional leadership focuses the work of principals and teachers around instruction

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(Hallinger, 2003; Hallinger & Murphy, 1985). In contrast, shared instructional leadership promotes the collaboration of principals and teachers around instruction (Marks & Printy, 2003; Printy et al., 2009).

Shared Instructional Leadership

Shared instructional leadership is described as a "synergistic power of leadership shared by individuals through the school organization" (Marks & Printy, 2003, p. 393). This synergy around instruction among principals, teachers, and the school community is created through a mixture of leadership behaviors that have been associated with instructional leadership, transformational leadership, and shared instructional leadership. In school effectiveness research, this synergy is measured by factors that support successful teacher practice. For example, principals who build a positive climate for teachers through communication of a mission, shared decisions, supportive professional development, a sense of teacher community, and public relations with the broader community promote an environment in which teachers feel empowered and committed (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010; Marks & Louis, 1999; Moolenaar et al., 2010; Muijs & Harris, 2003; Printy, 2008; Thoonen et al., 2011; Ware & Kitsantas, 2011; Zembylas & Papanastasiou, 2005). This teacher commitment and empowerment generated from effective leadership behaviors has been found to increase performance and student achievement (Bryk et al., 2010; Somech, 2005; Zigarelli, 1996). Further, teachers who are empowered and committed within their position are less likely to leave their job (Guarino, Santibanez, & Daley, 2006), which builds a stable community of effective teacher leaders (Ingersoll, 2001). When principals gain synergy within the school, capacity is developed through teacher empowerment and the experience of continued success and reciprocal effects (Hallinger & Heck, 2011; Marks & Louis, 1999; L. Slater, 2008; Somech, 2005; Thoonen et al., 2011).

Marks and Printy (2003) concluded that this synergy is derived from what they termed *integrated* leadership. Using a sample of 24 restructured elementary, middle, and high schools, the authors used surveys, interviews, and observations to measure the degree of both transformational and shared instructional leadership within each school. To investigate the relationship between transformational and shared instructional leadership, they plotted the standardized mean scores of shared instructional leadership by transformational leadership. By graphing the relationship among both leadership styles at each school, they found that principals who practiced high shared instructional leadership also exhibited high transformational leadership. Absent from this analysis were principals who were able to practice shared

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instructional leadership without demonstrating behaviors of transformational leadership, demonstrating that transformational leadership was necessary but insufficient for shared instructional leadership. The authors assigned the term *integrated leadership* to schools that exhibited both transformational and shared instructional leadership.

To test the effect of integrated leadership on academic outcomes, Marks and Printy (2003) used hierarchical linear modeling to demonstrate the amount of variance explained in pedagogical quality and authentic achievement with integrated leadership. They found that average standardized achievement and integrated leadership explained 26% of the variance in pedagogical quality and that student standardized achievement, student ethnicity, and integrated leadership explained 57% of the variance in authentic achievement. These findings from Marks and Printy help to explain the importance of a multi–leadership style approach in order to better understand the ways in which principals develop shared instructional leadership.

Principals who practice integrated leadership through combining the aspects of transformational and shared instructional leadership create a synergy among teachers and principals around instruction that supports innovation and change (Marks & Printy, 2003; Moolenaar et al., 2010; Thoonen et al., 2011). Transformational leadership provides particular strategies for building an overall positive climate through a mission, professional growth, and a sense of community (see Table 1). Similar leadership behaviors have been represented in both instructional and shared instructional leadership (represented by arrows across columns in Table 1). Instructional leadership takes a more indirect or top-down approach to building this climate with high visibility of principal and offering of rewards (compare text across "Build sense of community" row in Table 1). Yet, instructional leadership adds the coordination of the instructional program not found in transformational leadership. The same focus on the coordination of the instructional program is transferred to shared instructional leadership (represented by arrows across columns). However, shared instructional leadership more accurately represents the original intent of transformational leadership through the inclusion of teachers in the building of community and climate (compare text in "Build sense of community" row in Table 1). Uniquely, shared instructional leadership contributes that teachers share responsibility for organizational change and leadership around instruction. This comparison of leadership styles demonstrates the considerable amount of overlap among leadership styles. To date, we have little evidence about the different ways in which principals across the United States decide to enact these effective leadership behaviors to promote innovation and change that is appropriate for their schools' needs.

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Table 1. Conceptual Framework of Different Leadership Styles of Principal Behavior.

Core Leadership Behaviors	Transformational Leadership (Bass & Avolio, 1990, 1993; Leithwood, 1994; Leithwood & Sun, 2012)	Instructional Leadership (Hallinger & Murphy, 1985)	Shared Instructional Leadership (Marks & Printy, 2003; Printy, Marks, & Bowers, 2009)
Communicate mission	Inspirational motivation, Idealized influence; build school vision and goals, demonstrate high performance expectations	Articulate and communicate clear school goals, high expectations	Strong principal leadership to facilitate growth and direction
Promote professional growth	Individual consideration, intellectual stimulation; offer individualized support	Promote professional development for teachers	Provide opportunities for teacher growth
Build sense of community	Idealized influence, intellectual stimulation; rewards; symbolize professional practices and values, develop structures to foster participation in school decisions	Maintain high visibility, provide incentives for teachers, provide incentives for learning	Principal and teachers discuss alternatives for instructional practices
Coordinate the instructional program		Coordinate curriculum, evaluate instruction, monitor student progress, protect instructional time	Maintain congruency of educational program
Share instructional leadership with teachers			Teachers responsible for change, leadership roles for teachers

The past couple decades of research on principal leadership has identified a core set of effective leadership behaviors and has demonstrated how these behaviors group together in different ways to collectively describe several leadership styles. As a result, we know that principals of an average U.S. school who perform all of these core leadership behaviors, which best describe shared instructional leadership, promote the greatest increase in student outcomes (see Robinson et al., 2008). However, this line of inquiry has focused on the effectiveness of these behaviors rather than the principal, who is able to perform or not perform these behaviors (Leithwood & Jantzi, 2008; Urick & Bowers, 2011, in press), and the school context, in which the characteristics—for example, student demographics, school location, or grade level—influence the effectiveness of these behaviors differently (Louis et al., 2010; May, Huff, & Goldring, 2012). Our conceptualization of types, the grouping of principals, compared to styles, the grouping of behaviors, better accounts for the differences in the way that principals may or may not

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perform these idealized behaviors in their specific school context (Fiedler, 1964/1978, 1966, 1967; Miller & Rowan, 2006).

Principal Typologies

The role of principals in school leadership has shifted from a sole focus on principals building a community, a mission, and professional growth—transformational leadership—to an additional focus on principals leading the instructional program and sharing these tasks with teachers—shared instructional leadership. However, while researchers have urged school leaders to take up the mantle of shared instructional leadership, currently there is little data on the different ways in which principals actually practice leadership in schools, that is, types of principals.

Samples to date across the past literature have been based on a limited number of principals or school contexts or on informative but intact sample qualitative case studies. Little evidence exists to explain the ways in which transformational, instructional, or shared instructional leadership are or are not practiced across U.S. schools. Further, given the previous overlap among leadership styles (see also Leithwood & Sun, 2012), a principal could simultaneously practice several styles, particularly, transformational and shared instructional leadership (Marks & Printy, 2003). No study to date has examined the different types of principals on the basis of perceptions of their own leadership styles. More evidence is needed to describe the types of leaders that exist and how these different types align with current conceptions of transformational, instructional, and shared instructional leadership using a large generalizable sample rather than evidence that urges principals to practice one leadership style over another.

Only one study has attempted to identify different types of principals while accounting for school context. The inclusion of school context variables is important since a principal adjusts his or her leadership to meet the needs of the teachers and students within the school (Hallinger, Bickman, & Davis, 1996; R. Slater & Teddlie, 1992). Goldring, Huff, May, and Camburn (2008) used cluster analysis to identify different types of principals in one school district on the basis of principal logs of their time allocations. The authors found three different types of leaders: eclectic principals, instructional principals, and student-centered principals. In a subsequent analysis, they predicted different leadership behaviors with contextual variables to show the magnitude of each contextual variable on the leadership behaviors of each principal type. They showed that eclectic principals came from less disadvantaged schools and had more free time to spend on a variety of leadership activities. Student-centered and instructional principals worked in schools with more economically disadvantaged

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students; their behaviors reflected multiple accountability and context-focused pressures. The authors concluded that the school context was crucial to help predict the different ways in which principals decided to lead their school. This study provides evidence that the different types of principals in schools do not necessarily align with previous conceptions of leadership styles.

The study of principal typologies adds to the current literature by providing an explanation of the different ways in which principals choose to lead in various school contexts. However, cluster analysis, used by Goldring et al. (2008), does not incorporate a hypothesis test of the number of significantly different types present in the data. In addition, cluster analysis does not allow for the inclusion of school context variables as predictors in an omnibus model. The emerging field of mixture models and latent class analysis (LCA; Hallinger & Heck, 2011; B. Muthén & Asparouhov, 2006; B. Muthén & Muthén, 2000) more appropriately models significantly different variations in data with the opportunity to include background characteristics as independent variables. This methodology fits with the call from Hallinger and Heck (2011) to use more complex models to examine school processes.

We argue that principal perception demonstrates the ways in which principals choose to perform or not perform idealized core leadership behaviors or groups of behaviors (styles) within their own school. In order to appropriately test for the complex differences of leaders across various U.S. contexts, we seek to identify types or subgroups of principals based on the similarities and differences of how they perceive their own leadership while accounting for principal background, such as gender and experience, as well as school characteristics.

Therefore, the present study uses LCA to identify the different types of principals present in U.S. schools using principal perceptions of leadership styles, such as managerial tasks, transformational leadership, instructional leadership, and shared leadership, while accounting for school and principal background variables. The purpose of this study is to identify different types of principals across the United States and to test the extent that principal and school characteristics predict these types. This study addresses the following research questions:

1. What are the different types of principals across U.S. schools based on their perceptions of their own leadership styles?
2. To what extent do school context and principal background characteristics predict these principal types?
3. In what way do these different types of principals demonstrate a two-dimensional relationship between transformational and shared instructional leadership as proposed by Marks and Printy (2003)?

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Methods

Sample

This study is a secondary analysis of the restricted-use 1999-2000 Schools and Staffing Survey (SASS), originally collected by the National Center for Education Statistics (NCES). In 1999, NCES collected data on about 9,890 schools in the United States (NCES, n.d.). In SASS, schools are the primary sampling unit (Gruber, Wiley, Broughman, Strizek, & Buran-Fitzgerald, 2002; NCES, n.d.). The sample design estimates school characteristics by the nation, elementary and secondary levels, public and private sectors, Bureau of Indian Affairs schools and schools with American Indian or Alaska Natives, school levels by states, and private schools by association, region, and school level (Gruber et al., 2002; NCES, n.d.). From the 1997-1998 Common Core of Data, public schools were selected to represent national and state characteristics (Gruber et al., 2002). Districts (or local educational agencies) and principals were sampled from these selected schools. Weights are provided to adjust for the probability of selection and to account for the sample of cases eligible but not surveyed (Gruber et al., 2002).

SASS provides a unique opportunity to connect school and principal characteristics to leadership perceptions with nationally generalizable data (Gruber et al., 2002). More specifically, the 1999-2000 SASS principal survey includes school leadership variables no longer found in more recent administrations of SASS. These items consist of the frequency that a principal facilitates an achievement of a school mission, guides the development and evaluation of curriculum, and builds a professional community among faculty and staff, which are instrumental measures in the representation of the prominent leadership styles found within the literature. We used a final sample of $n = 7{,}650$ public schools and principals from SASS. To maintain confidentiality, sample sizes are rounded to the nearest 10.

Variables Included in the Analysis

Principal perception. Based on prior descriptions of leadership styles, principal perception variables were selected for inclusion in the analysis. There were two main groups of variables. First, principals responded to items about their own leadership. Second, principals responded to items about the extent that leadership was shared with teachers. Since the principals' perception about their own leadership did not contain a neutral response, 11 items were dichotomized to simplify the model. In addition, 2 additional continuously scaled items were included in the typology, principal perception of social disorder and percentage of faculty teaching to high standards. For principal

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perceptions about teachers, 7 items of principal perceptions about shared leadership with teachers remained as a five-choice Likert-type scale.

Principals responded to survey items about the frequency of their behaviors that align with the descriptions of transformational leadership, instructional leadership, and managerial tasks in previous literature. As detailed in Appendix A, transformational leadership was measured by whether principals view themselves as attending professional development with teachers (0 = never to twice, 1 = three to six or more times), developing public relations, facilitating achievement of school mission, building professional community, providing professional development activities either seldom (0 = never to once or twice a month) or frequently (1 = once or twice a week to daily) (Bass & Avolio, 1993; Bogler, 2001; Geijsel et al., 2003; Hallinger, 2003; Leithwood et al., 1998; Nguni et al., 2006; Thoonen et al., 2011). Instructional leadership was measured by whether principals view themselves as guiding development of curriculum and facilitating student learning either seldom (0 = never to once or twice a month) or frequently (1 = once or twice a week to daily) (Cuban, 1984; Edmonds, 1979; Hallinger, 2003, 2005). Managerial tasks were measured by whether principals view themselves as maintaining physical security, managing school facilities, supervising staff, attending district meetings either seldom (0 = never to once or twice a month) or frequently (1 = once or twice a week to daily) (Bass, 1985; Firestone & Wilson, 1985). In addition, to describe their need for these managerial tasks, principals were asked to rate the degree of social disorder (0 = *not a problem* to 4 = *serious problem*) within their schools, which included student tardiness, student absenteeism, class cutting, physical conflicts, theft, vandalism, alcohol use, drug abuse, weapons, and disrespect for teachers (α = .85; Griffith, 1999). Finally, principals suggested the percentage of faculty teaching to high standards (Darling-Hammond, 2000; Kennedy, 2006; see Appendix B).

Principals responded to survey items about the degree of influence (0 = *no influence* to 4 = *a great deal of influence*) teachers had over instructional leadership as well as managerial tasks, presented in Appendix C. The amount of instructional leadership shared with teachers was measured by the degree that teachers set performance standards for students in the school, established curriculum at school, and determined the content of in-service professional development programs for teachers in school (Hallinger, 2003, 2005; Harris, 2004; Marks & Printy, 2003; Printy et al., 2009; Spillane, Halverson, & Diamond, 2004). The degree of shared influence with teachers over managerial tasks included evaluating teachers in this school, hiring teachers, deciding how the budget will be spent and setting discipline policy for the school (Bridges, 1967; Smylie & Brownlee-Conyers, 1992; Weiss, 1993).

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School context. As detailed in Appendix C, school demographics, accountability context, and principal background were selected as predictors of the principal types. School demographics included urbanicity, school size, grade level, percentage of students who receive special support (English language learners, Individualized Education Program), percentage of minority students and teachers, and student-teacher ratio, which have been found to influence school leadership (Hallinger et al., 1996; Louis et al., 2010). Whether or not the school met state and/or district goals for the previous school year was incorporated as a measure of the current accountability context of the school, which relates to leadership decisions and effectiveness (Hallinger & Heck, 2011; Weathers, 2011). Last, principal gender, ethnicity, highest level of education, years of experience as a principal, and years of experience as a teacher were included in the model (Hallinger et al., 1996; Louis et al., 2010; White & Bowers, 2011; refer to Appendices A, B, and C for all variables names and descriptives).

Analytical Model

LCA has recently emerged from the broader mixture and structural equation modeling literature as a useful method for examining if a typology exists within a data set and to what extent different subgroups pattern into each group while accounting for multiple covariates (Bowers & Sprott, 2012a, 2012b; Dolan, 2009; Duncan, Duncan, & Stryker, 2006; Goodman, 2002; Hallinger & Heck, 2011; Muthén, 2008; Urick, 2012). Much like cluster analysis, LCA takes a set of survey items as the dependent variables and determines the extent to which respondents are similar or different across the items in order to assign each participant to an alike subgroup or latent class. However, LCA has been shown to be superior to cluster analysis in that LCA provides a hypothesis test for the number of subgroups as well as allows for an omnibus model, which includes a simultaneous multinomial logistic regression to examine the extent that covariates influence the subgroups. In a structural equation model framework, a set of independent variables, such as principal background or school characteristics, explains the latent classes, types of principals as the mediated variable, which are identified by a set of survey items, principal perceptions of leadership as the dependent variables (B. Muthén, 2002, 2003, 2004, 2008). This method is well suited to examine the number of different types of principals on the basis of their perceptions of their own leadership styles across U.S. schools and the extent that school context variables predict these types.

For the present study, we used Mplus Version 6 to estimate an LCA model using robust maximum likelihood (MLR) estimation (L. Muthén & Muthén,

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1998-2010). The dependent variables that define the different subgroups, or latent classes, were organized into two main conceptual categories as described above: principal perception of principal leadership—managerial tasks, transformational leadership, instructional leadership—and principal perception of shared leadership with teachers—managerial tasks and instructional leadership (see Figure 1). School and principal context and background variables as well as the accountability variable, school met district or state goals, were included as independent variables in the model.

The labels for the principal perception of leadership variables—managerial tasks, transformational leadership, and instructional leadership—were used only as a form of organization to bring order to the list of behaviors so that they easily link to past literature and aid in the interpretation of results. From our review of literature, we argue that these leadership styles have substantial conceptual overlap and may not represent the difference between principals. For this reason, the behaviors that might commonly describe these styles were entered into the model separately, not as composites from factor analysis, so that the LCA results could demonstrate the variation in principals' responses to each of these behaviors across the significantly different principal types. We know from previous research the extent of the relationship, dimensionality, and reliability of scales of the 1999-2000 SASS survey items and, specifically, these principal perceptions of leadership variables (e.g., Marks & Nance, 2007; Ware & Kitsantas, 2007, 2011; Wolfe, Ray, & Harris, 2004). An examination of correlations or psychometric properties was beyond the purpose and statistical procedures of this study. Instead, we are interested in the nonparametric nature or frequency of item responses to distinguish between subgroups or types of principals (see McCutcheon, 1987).

In LCA, an iterative set of models is tested (Jung & Wickrama, 2008; Nylund, Asparouhov, & Muthén; 2007) in which the first model is a single group model (i.e., to test the hypothesis that there is one type of principal), and then subsequent models are fit to the data, and model fit is assessed using a $k - 1$ hypothesis test, the Lo-Mendell-Rubin (LMR; Lo, 2005; Lo, Mendell, & Rubin, 2001), along with negative log likelihood, Akaike information criterion (AIC), and Bayesian information criterion (BIC). Model testing then proceeds iteratively with $k + 1$ latent classes (i.e., two types, three types, four types) until the model does not statistically significantly fit, at which point the statistically significant $k - 1$ model with the most latent classes is interpreted (Jung & Wickrama, 2008; Nylund, Asparouhov, et al., 2007). It is important to note that these iterative models are used to determine the number of classes that best fit the data. Only the model with the best fit is interpreted, and all parameters are included when testing each number of classes, unlike a stepwise regression. Additionally, because SASS is not a simple

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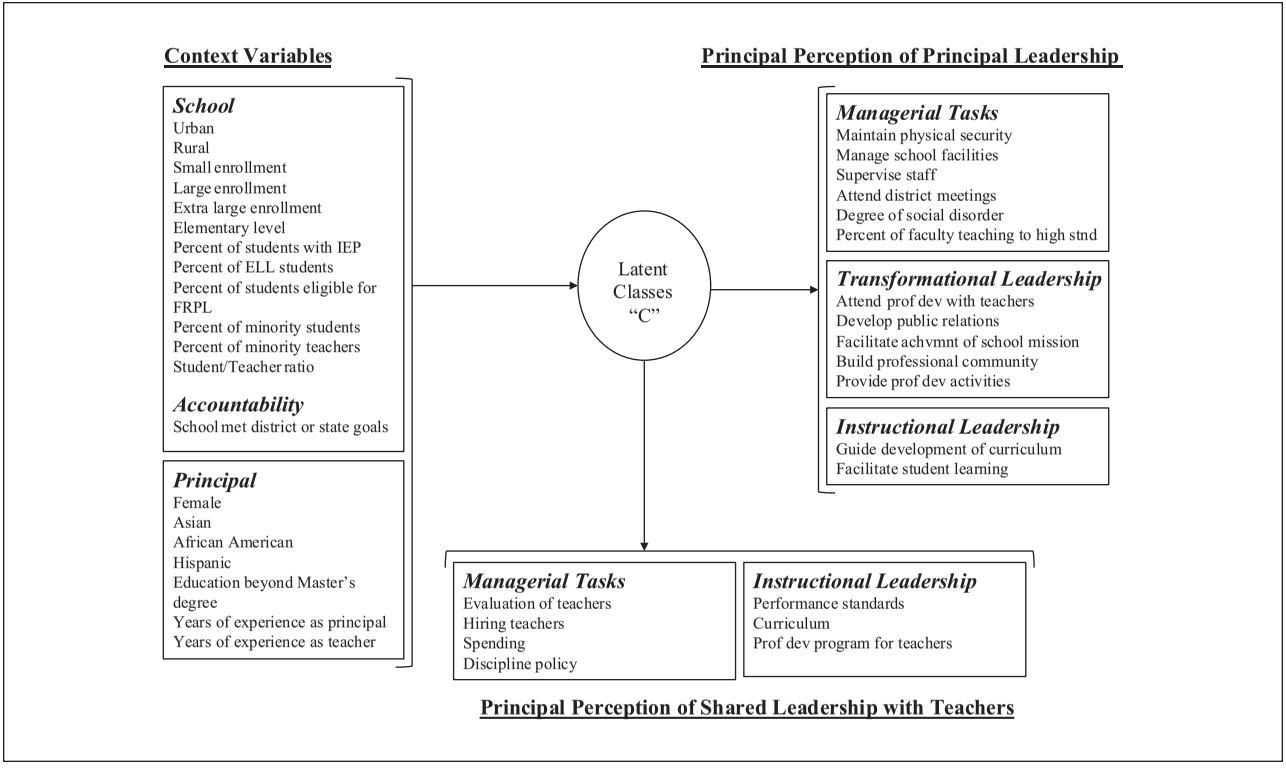


Figure 1. Model of latent class analysis (LCA) of principal perception of leadership.

random sample but is a probabilistic complex sample representative of the United States, we applied the sampling weight (AFNLWGT) to the LCA to allow for generalizations to the entire U.S. population of school principals in 1999-2000. Weights correct the standard error from sampling bias for each respondent of a subgroup within a unit, which, if underestimated, increases the probability of a false rejection of a null hypothesis (Stapleton, 2002; Strayhorn, 2009). The benefit of the SASS probabilistic complex sample with respondent (principal) weights applied is that the data are nationally representative of principals and schools, and the results are generalizable.

As a product of the LCA, each participant is assigned to the most likely class or type. Using these assignments, we then returned to the raw data to compare their survey responses by type. Means across the groups were plotted in two ways to aid in visualizing and interpreting the results. First, plots compare mean survey item responses across the different subgroups for principal perception of their leadership and leadership shared with teachers. Second, in order to compare the results of this study to previous research on shared instructional leadership as an integration of shared instructional and transformational leadership (Marks & Printy, 2003), standardized mean scores of transformational (principal perception of principal transformational leadership) and shared instructional leadership (principal perception of principal and teacher instructional leadership) measures were generated and then plotted to visualize the relationship of these two dimensions for each principal type identified in the LCA.

Results

Following the recommendations of the mixture modeling literature (Jung & Wickrama, 2008), we tested an iterative set of LCA models (see Table 2). The four-class model did not significantly fit the data ($p = .325$). The three-class model fit the data well, $p < .001$, with an entropy of 0.788, AIC = 297100.82, BIC = 297871.45, and LMR = 5104.97, so we interpreted the three-class model. Consequently, as the first study to date to examine the prevalence of different types of principals using a large nationally generalizable sample, our results show that schools in the 1999-2000 academic year had three significantly different types of principals based on their perceptions of their own leadership style in the school and their perceptions of leadership shared with teachers in their school.

After reviewing the differences in principal responses to the survey items and the extent that background and context variables influenced each subgroup, we labeled the three types of principals as *integrating, controlling*, or *balkanizing* to describe the different types of leadership that these principals

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Table 2. Latent Class Analysis Results and Fit Indices.

Model	AIC	BIC	–Log likelihood (–LL)	% Decrease in –LL	Lo-Mendell-Rubin Test for $k - 1$ classes	*p*
One class	926949.62	927436.11	463405.81	—	—	—
Two class	302142.82	302628.80	151001.41	67.41	9758.83	<.001
Three class	297100.82	297871.45	148439.41	67.97	5104.97	<.001
Four class	295129.86	296185.13	147412.93	68.19	2045.34	.325

Note. AIC = Akaike information criterion; BIC = Bayesian information criterion.

saw themselves as providing their schools. The majority of the sample (53.93%) were identified as integrating principals. The remaining portion of the sample was split between the controlling (24.07%) and balkanizing (22.0%) subgroups. We returned to the raw data after each principal was assigned to his or her most likely class to examine the different patterns of responses by each class. We named the groups on the basis of these differences across their raw responses as well as the extent that particular principal and school background variables helped to predict the membership of principals in each type from the omnibus LCA model. The integrating principals, the highest responders, were named on the basis of Marks and Printy (2003). Marks and Printy describe integrated leadership as principals who utilize multiple styles to ultimately build a synergy between themselves and teachers. Controlling principals—those demonstrating more frequent principal leadership—and balkanizing principals—those exhibiting less frequent principal leadership and more frequent leadership shared with teachers—were named to reflect the more nuanced differences beyond their position as mid- and low responders since the pattern of mid and low was not consistent for these types across all leadership items, as often found in other LCA results (e.g., Nylund, Bellmore, Nishina, & Graham, 2007). The differences in their responses about their own leadership and leadership shared with teachers as well as background and school characteristic variables that significantly predicted each type further detail the intended meaning behind these names.

Figure 2 and Figure 3 disaggregate the raw responses of the principals to the survey items by each of the three subgroups. In Figure 2, differences across the survey items by each of the three groups in the principals' perception of their leadership are presented. The integrating subgroup had the highest principal responses to the frequency of how often they practiced managerial tasks and transformational and instructional leadership. In comparison, the controlling principals' perceptions of how often they practiced each of the leadership domains were between the integrating and balkanizing groups. The balkanizing principals had a somewhat different pattern to their

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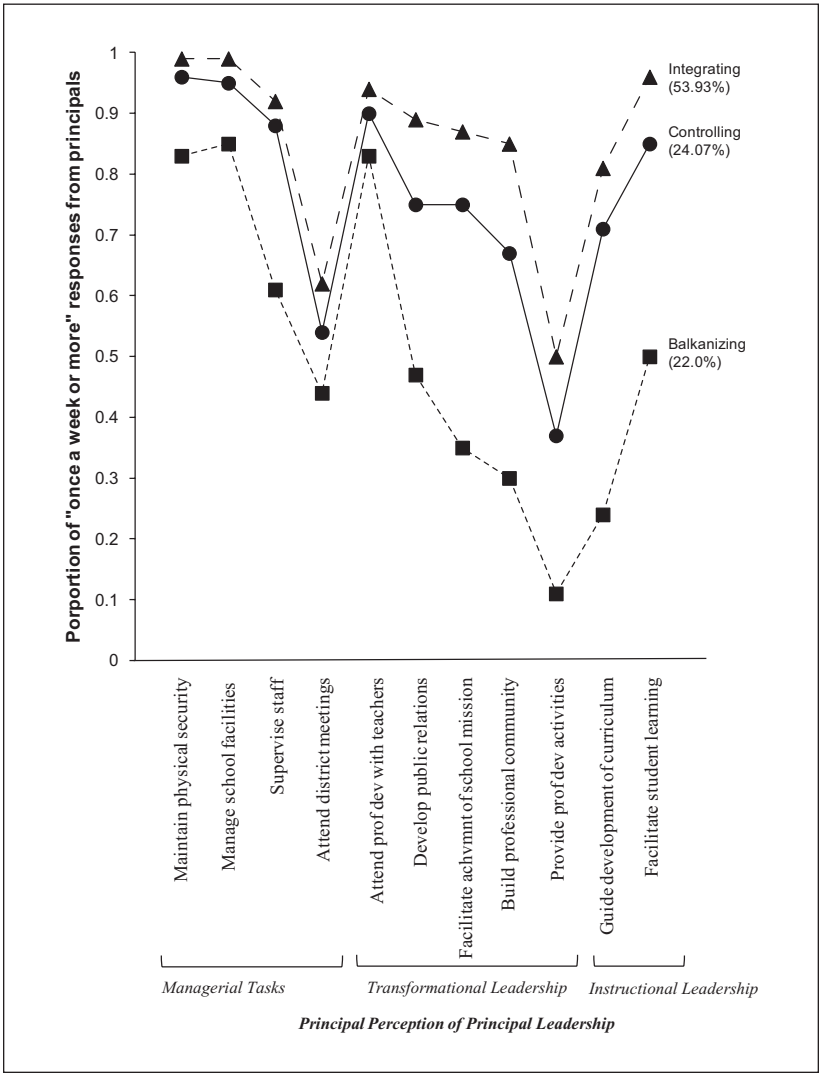


Figure 2. Plot of the proportion of principals in each type who responded that they perform managerial tasks and transformational and instructional leadership tasks at least once a week.

responses, responding that they practiced managerial, transformational, and instructional leadership tasks less of the time than the integrating and

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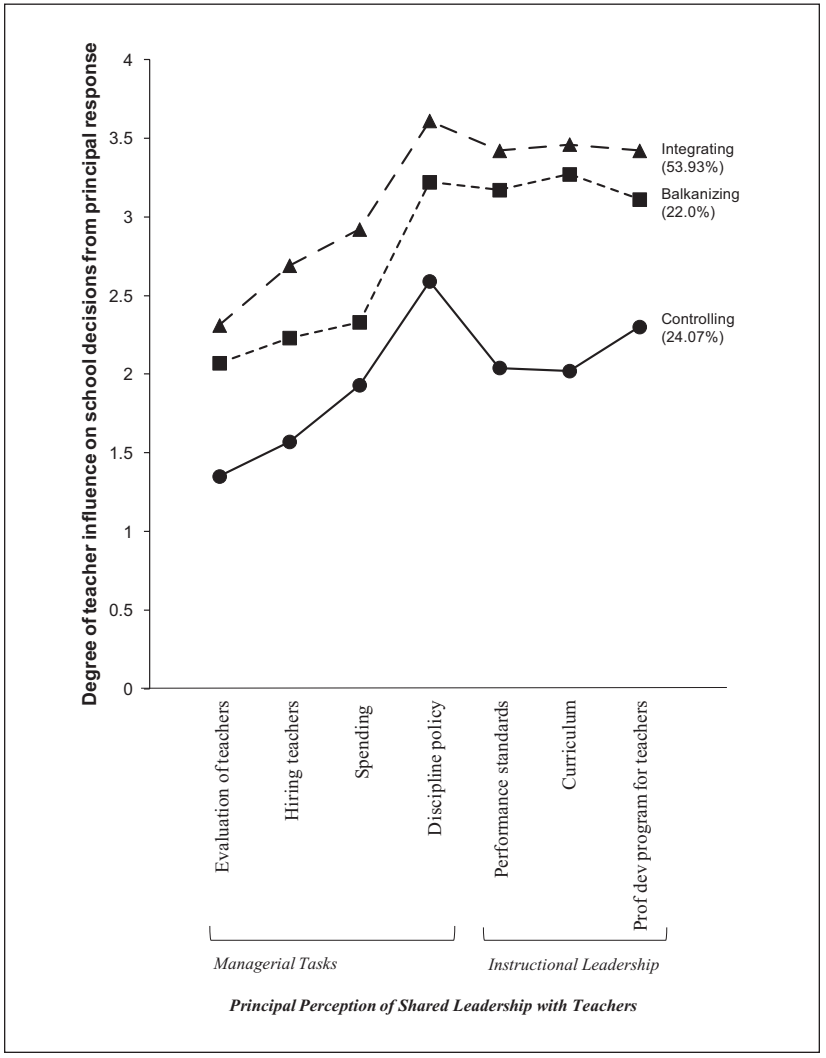


Figure 3. Plot of the mean response of the degree to which the principals in each type perceive that they share managerial tasks and instructional leadership tasks with teachers.

balkanizing principals. Fewer than half of the balkanizing principals responded that they practiced transformational and instructional leadership behaviors at least weekly.

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Figure 3 presents the raw responses across the three groups to the survey items that measured principal perception of shared leadership with teachers. Again, the integrating subgroup of principals responded that teachers had the highest levels of influence on school decisions in both managerial tasks and instructional leadership. However, in comparison to Figure 2, which examined the principals' perception of their own leadership, Figure 3 shows the opposite pattern from Figure 2 in the balkanizing and controlling principals' responses to the amount of leadership that they perceive that teachers have influence over in their schools in both managerial tasks and instructional leadership. Here in Figure 3, the balkanizing subgroup lies between integrating and controlling (the opposite of Figure 2), indicating that when it comes to the degree of influence that the principals share with teachers, the subgroup that we have termed as balkanizing had fairly high responses to the amount of teacher influence over leadership in their schools, while the controlling group saw teachers in their schools as having the lowest levels of influence, especially when it came to influence over instructional leadership issues, such as performance standards, curriculum, and professional development (see Figure 3, right).

In addition, the typology varied across the principals' raw responses to percentage of teachers teaching to high academic standards ($F = 181.59$, $p < .001$), with integrating principals reporting that 84.03% ($SD = 13.85$) of their teachers teach to high academic standards, in comparison with 77.45% ($SD = 17.90$) for balkanizing and 75.31% ($SD = 18.16$) for controlling. Finally, in regard to the principals' perception of the amount of social disorder in the school, the three subgroups differed significantly ($F = 77.40$, $p < .001$). Integrating principals perceived the least amount of social disorder ($M = 0.64$, $SD = 0.48$), while balkanizing ($M = 0.76$, $SD = 0.44$) and controlling ($M = 0.77$, $SD = 0.47$) principals did not differ by social disorder.

In sum, integrating principals reported more often weekly practice of managerial tasks, transformational leadership, and instructional leadership and the greatest degree of teacher influence over managerial tasks and instructional leadership. This dual attention to both their leadership practice and the shared leadership practices of teachers define the integrating principal type. Controlling principals had somewhat lower reported frequencies of attending to managerial tasks and transformational and instructional leadership behaviors, which were fairly close to the integrating principal type. Yet, controlling principals perceived their teachers as having the least amount of influence over managerial tasks and instructional leadership. This difference defines the controlling group, in that the principals perceive that they practice leadership behaviors often themselves but share the least amount of

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leadership in either managerial or instructional domains with their teachers. In contrast to these two groups, fewer balkanizing principals reported weekly practice of managerial tasks and transformational and instructional leadership yet reported a higher degree of teacher influence over managerial tasks and instructional leadership compared to controlling principals. Balkanizing principals appear to be the opposite of the controlling principals. For the group that we termed balkanizing, these principals have the lowest frequencies of attending to transformational and instructional leadership (although the differences between the three groups on managerial tasks is fairly small; see Figure 2, left) but compare favorably to the integrating principals in the degree of influence that the principals report that teachers have on school decisions that relate to managerial and instructional issues.

In addition to the survey responses that help to define the three latent classes, LCA allows for inclusion of independent variables in the omnibus model, which tests the extent that principal and school background variables predict the principal classes or types. Table 3 presents the results from this part of the model and shows that the background variables significantly predict the principal types. Because the integrating subgroup had the majority of the principals, we used this group as the reference group and present odds ratios in Table 3 that describe the odds of a principal being either balkanizing or controlling in comparison to integrating. Both balkanizing and controlling principals were less likely to meet district or state accountability goals compared to integrating principals and were less likely female. Specific to the balkanizing type, these principals served in a school with fewer minority students and lower enrollment and were more often located in a rural area. These background variables help to further distinguish between the types.

Thus, our results demonstrate that the principal and school characteristics help to predict the three subgroups of principals and that these types significantly differ across the survey items in both their perceptions of their leadership style and their perceptions of the amount of influence teachers have over important managerial and instructional tasks in the school. In comparing our results with the past literature, such as Marks and Printy (2003), we see this difference across the subgroups as lying along two dimensions, transformational leadership and shared instructional leadership. While we note that the integrating, balkanizing, and controlling principal types are identified by the differing patterns across Figures 2 and 3 above, the past literature (Marks & Printy, 2003) has suggested that principals and schools may be simultaneously distributed along two dimensions of leadership: transformational leadership, which focuses on principals engaging teachers in the organizational processes of the school, and shared instructional leadership, which focuses on principals distributing leadership tasks to teachers and building a synergy between

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Table 3. Means and Odds Ratios for Latent Class Analysis Background Variables With Integrating Class as the Reference Group.

	Balkanizing (22.0%)		Controlling (24.07%)		Integrating (53.93%)	
Variable	Mean	Odds Ratio	Mean	Odds Ratio	Mean	Odds Ratio
School demographics						
Urban	0.15	0.88	0.29	0.97	0.25	—
Rural	0.46	1.40**	0.27	0.94	0.28	—
Small enrollment	0.76	1.50**	0.62	0.88	0.67	—
Large enrollment	0.04	1.42	0.07	1.48	0.04	—
Extra-large enrollment	0.02	1.42	0.02	0.92	0.02	—
Elementary level	0.53	0.73	0.57	0.87	0.65	—
Percentage of students with IEP	12.75	1.00	12.95	1.00	12.70	—
Percentage of ELL students	4.08	1.01	6.03	1.00	5.93	—
Percentage of students eligible for FRPL	38.79	1.00	45.54	1.00	41.14	—
Percentage of minority students	22.50	0.99**	39.53	1.01	33.03	—
Percentage of minority teachers	9.28	1.00	17.75	1.00	14.99	—
Student-teacher ratio	14.66	0.97	15.39	0.98	16.09	—
Accountability context						
School met district or state goals	0.52	0.55***	0.56	0.71***	0.65	—
Principal background						
Female	0.32	0.59***	0.40	0.62**	0.49	—
Asian	0.01	2.74	0.00	0.33	0.01	—
African American	0.06	1.07	0.16	1.29	0.10	—
Hispanic	0.03	0.84	0.05	0.65	0.06	—
Education beyond master's degree	0.42	0.93	0.43	0.89	0.46	—
Years of experience as principal	9.31	1.00	8.31	0.99	9.12	—
Years of experience as teacher	13.91	1.00	14.26	1.00	14.06	—

Note. IEP = Individualized Education Program; ELL = English language learner; FRPL = free or reduced-price lunch.
**$p \leq .01$. ***$p \leq .001$.

themselves and teachers around issues with curriculum, instruction, pedagogy and professional development. Rather than describing principals and schools as either transformational or not, or shared instructional or not, Marks and Printy urged for the integration of these concepts. They viewed their sample of 24 restructured schools from 1994 as distributing across both dimensions on continuous scales. This demonstrated that for their sample, no schools with low transformational leadership had high shared instructional leadership. Rather, the schools distributed across all other quadrants, indicating that transformational leadership was necessary but insufficient for shared instructional leadership, at least in their limited sample of 24 restructured schools.

For the present study, we are able to test if the Marks and Printy (2003) pattern holds in the large nationally generalizable SASS sample by

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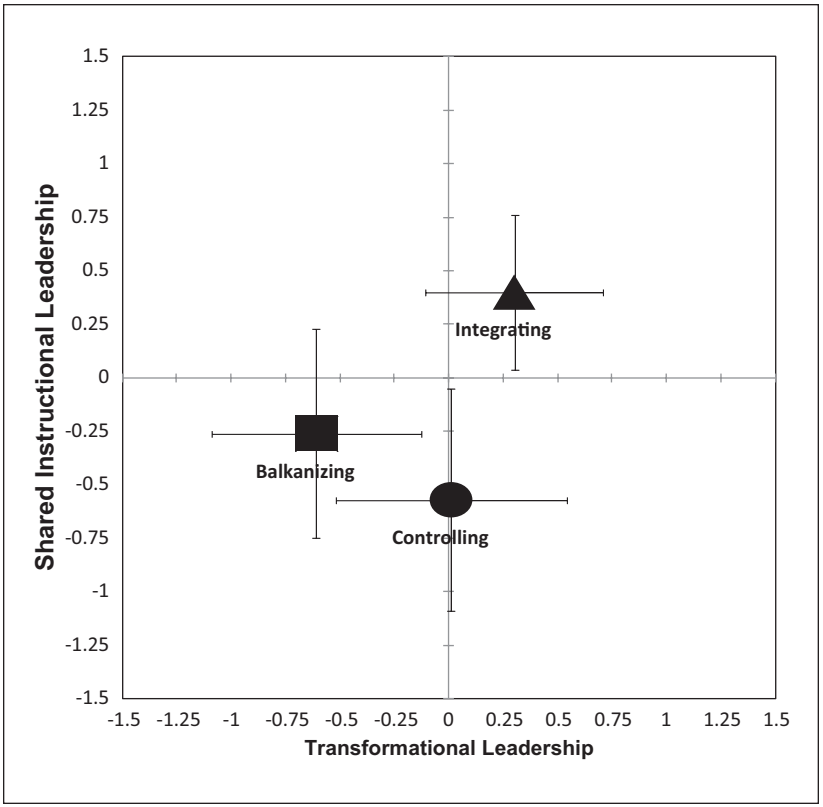


Figure 4. Plot of the relationship between transformational leadership and shared instructional leadership for each class using standardized mean scores of items that represent principal transformational leadership and teacher and principal instructional leadership. Error bars indicate ±1 standard deviation in each dimension.

answering: In what way do these different types of principals demonstrate a two-dimensional relationship between transformational and shared instructional leadership?

Thus, to help visualize the differences across the three groups and test the postulates, standardized mean scores of principal transformational leadership items and principal and teacher instructional leadership items from the raw data were plotted for each type of principal in Figure 4. This figure synthesizes the information from Figures 2 and 3, by plotting the mean responses of each of the three subgroups using the mean across transformational leadership items from

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Figure 2 to represent the principals' engagement of teachers in the organization for the *x*-axis and the mean across instructional leadership items from both Figures 2 and 3 to represent the synergy between principal and teachers around instruction for the *y*-axis in Figure 4. Of note, in our replication and extension of the work of Marks and Printy (2003) to a large nationally generalizable sample, none of the centroids for any of the three subgroups fell within the upper left quadrant, providing substantial support for the hypothesis that transformational leadership is necessary but insufficient for shared instructional leadership.

In Figure 4, the centroid for integrating principals in these two dimensions is in the upper right quadrant. These principals had high transformational leadership and high shared instructional leadership. Furthermore, the integrating type had less variation (represented by length of error bars) in the practice of these styles of leadership compared to the other types. This indicates that integrating principals perceived both high transformational and shared instructional practices. Interestingly, as noted above, the majority (53.93%) of the principals were integrating. Given that this is the first study to examine the prevalence of different types of principals as they relate to transformational and shared instructional leadership using a large nationally generalizable sample, our results indicate that the majority of principals in 1999-2000 reported that they perceived their schools as being high in both dimensions. The centroid for controlling principals sits in the lower right quadrant with error bars extending across to the lower left quadrant. These principals had a midrange practice of transformational leadership with low shared instructional leadership. Thus, because the results suggest that these principals perceived that they were leading their schools in management tasks and transformational and instructional leadership domains (see Figure 2), but that they were not distributing this leadership to their teachers (see Figure 3), we termed these principals "controlling." The centroid for balkanizing principals is situated in the lower left quadrant of Figure 4, which was low overall but somewhat between integrating and controlling in shared instructional leadership but the lowest in transformational leadership among the three types. We termed these principals as "balkanizing" since it appeared from their responses across the survey items that they had the lowest perceptions of their own leadership (see Figure 2) but reported that teachers had a high degree of influence over managerial and instructional tasks (see Figure 3). Thus it appears that these principals promoted a balkanizing form of leadership, in which they ceded leadership authority to teachers and teacher teams. This hypothesis is supported by the significant background variables as predictors, in that balkanized principals were likely to be in small, rural schools where principals might have felt that more frequent centralized leadership was not as necessary since fewer teachers fulfilled many different roles. While these findings appear intuitive

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to principals in guiding a particular school's structure, there has been little previous evidence to suggest which leadership behaviors and context variables define the difference between principals.

Discussion

This study is novel and significant for three main reasons. First, our results indicate for the first time in the literature that there are three significantly different types of U.S. principals that do not follow the pattern of separately defined leadership styles across previous literature. Second, the results of this study confirm that leadership styles are multidimensional with both transformational and shared instructional leadership describing these principal types as previously argued by Marks and Printy (2003). Third, these findings highlight important school context factors that help to predict the ways in which principals are most likely leading a particular school. For the first time, this study identifies three significantly different types of principals across the United States while appropriately accounting for school context and principal background.

A long history of educational leadership research has utilized leadership styles to define different types of leaders (Robinson et al., 2008). However, few studies have used measures of several leadership styles under the assumption that multiple leadership styles simultaneously have a positive influence on outcomes (e.g., Bogler, 2001). The present study demonstrated with the description of three different types of principals—balkanizing, controlling, and integrating—that principals enact several different leadership styles in their role as a school leader. Balkanizing, controlling, and integrating principals had a relatively high number of responses that they practiced managerial tasks or transactional leadership (Bass, 1985; Firestone & Wilson, 1985). Both controlling and integrating principals responded that they practiced transformational and instructional leadership frequently. Yet, compared to integrating and balkanized principals, controlling principals less often shared managerial or instructional leadership tasks with teachers. Knowing that principals use several leadership styles within their role, future research that attempts to measure the extent of principal influence on outcomes should focus on measuring their leadership using a set of core behaviors (see Hargreaves et al., 2007; Hopkins & Higham, 2007; Ishimaru, 2013; Leithwood et al., 2008, 2010; Robinson et al., 2008; Ylimaki & Jacobson, 2013) or multiple leadership styles in order to capture a complete range of leadership tasks rather than limiting principal behavior to individual leadership styles. If the intent of future research is to further describe the ways in which principals or teachers vary across schools using a chosen set of behaviors, then LCA or mixture models would help to identify types of educators and describe the

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different ways in which tasks are multidimensional or simultaneously performed between the types.

In order to connect this typology with previous literature, we examined the relationship between transformational and shared instructional leadership for each type of principal to confirm the prior finding that only schools with high transformational leadership practiced high shared instructional leadership (Marks & Printy, 2003). Using nationally representative data, we confirmed that integrating principals practiced both high transformational and high shared instructional leadership, as postulated by Marks and Printy (2003). In addition, we showed that controlling principals had midlevel transformational leadership and low shared instructional leadership, and balkanizing principals had slightly higher shared instructional leadership compared to controlling principals but less transformational leadership. Neither centroid for balkanizing nor controlling was situated within the middle of a positive quadrant, indicating that both groups' transformational and shared instructional leadership were both low in comparison to integrating principals. In the Marks and Printy study, the schools without integrated leadership were described as either not having a principal, having a new or interim principal, or not sharing instructional decisions with teachers but sharing other leadership tasks with teachers. In contrast to Marks and Printy, we found that balkanizing principals ceded both instructional and managerial leadership to teachers, whereas controlling principals more often withheld leadership from teachers. These relatively lower school leader types were best predicted by their school's structural characteristics, such as school size, location, or whether or not the school met district or state accountability standards, as well as principal gender, which influenced principals' perception of their own leadership behaviors or style. We recommend that future studies test the directional relationship between leadership styles—managerial, transformational, instructional, and shared instructional—as well as types—controlling, balkanizing, and integrating—to demonstrate the development of a principal's perception or use of behaviors. An analysis of the directional relationship of leadership styles would demonstrate the extent that one set of behaviors predicts a subsequent set of behaviors, whereas the same test of types would show the probability of principals to transition from one type to the next.

Few studies have taken into account that leadership varies across schools on the basis of school context. To date, no study has utilized nationally representative data to demonstrate how school context helps predict different types of principals across the United States. Given previous literature, we argue that principals mediate information about the school context, such as district accountability, teacher and student background, and so on, in order to assess how to direct their own leadership (see Bandura, 1982; Glasman & Heck, 1992; Leithwood et al., 2007; Leithwood & Jantzi, 2008; Portin et al., 2009; Spillane, 2006). With this

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information, principals formulate perceptions about which leadership behaviors will be successful, then create school conditions with their chosen leadership (Bandura, 1997; Leithwood & Jantzi, 2008; Portin et al., 2009; Spillane, Camburn, & Pareja, 2007; Tschannen-Moran & Gareis, 2007). This argument aligns with contingency theory, which states that depending on the situation, such as the task to be accomplished, and the composition of the group to perform the task, a leader selects whether to take a more task-oriented, managerial, or controlled approach or a relationship-oriented, transformational, or shared approach (Fiedler, 1964/1978, 1966, 1967). Rowan (1990) further explains,

> Organic forms of management [such as shared instructional leadership] may not enhance instructional effectiveness across all conditions of classroom organization. In fact, when the technology of instruction is routinized, as it is in many behavioristic instructional systems that have tightly specified curriculum hierarchies and tie student progress to testing, a mechanistic and control-oriented strategy may be appropriate and lead to increased instructional effectiveness. (pp. 382-383)

Our assertion of a context-based leadership extends beyond correctly supporting teachers and effective instruction through either controlled or shared leadership (see Firestone & Wilson, 1985; Miller & Rowan, 2006; Rowan, 1990). Each characteristic of the school, students, teachers, and principal influences a principal's leadership behavior in a different way (Glasman & Heck, 1992; Goldring et al., 2008; Hallinger & Murphy, 1986; Krüger, Witziers, & Sleegers, 2007; Mayrowetz, Murphy, Louis, & Smylie, 2007).

Integrating principals reported a larger number of faculty teaching to high academic standards and lower social disorder. These principals built a positive academic climate around high standards with fewer disciplinary issues. Further, integrating principals were most often female and more often met state or district accountability goals. Balkanizing principals were often male in small, rural schools with fewer minority students and less often had and met state or district goals. This small, rural school context may have prompted the principal to cede leadership to teachers since there is a smaller staff that may perform multiple roles. In contrast, controlling principals less often had and met state or district goals and were also male. Miller and Rowan (2006) argue that more organic forms of leadership, such as shared instructional leadership, do not always influence an increase in student achievement. Future research should test a mediated (Hallinger & Heck, 1996) model of leadership and school and teacher conditions to examine whether or not these types of principals influence student success.

Thus, in conclusion, we assert that the findings from our model help extend theory and practice at the intersection of principal perception, contingency

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theory, and principal types over styles. Given the results, we contend that the study of principal types with context as a significant predictor is an important extension of the current research. We found that the majority of the principals in the survey were of the integrating type, who perceived their behaviors as distributing the leadership in the school while also providing an instructional focus and climate around which teachers have a mission, community, and professional development. We replicate and extend the work of Marks and Printy (2003) by demonstrating that there are principals who see themselves as ceding authority over the instructional core to the teachers while also maintaining a frequent centralized, transformational leadership. We distinguished between two types who perceived themselves as practicing transformational and shared instructional leadership in ways different than integrating principals, or an idealized type. We encourage future research to explore why these principals self-reported less frequent leadership associated with these styles or, through the perception of themself and the school, decided on a lesser degree or frequency of particular idealized leadership behaviors. Since principal perception is understudied, yet self-reported, we need more evidence to better understand how these principal types might have changed if teacher perception was also included in the model. We hypothesize that some of the observed difference may be due to context and that a greater focus on these lower responder types would help inform future theory and research around best practices in schools, especially given the bulk of work to date around idealized styles discussed above. Additionally, future research should focus on identifying the extent to which these three types of leaders influence teacher practices and student learning. It may be that a specific type of leader is needed in some contexts, such as a controlling principal in a school with extensive behavior problems or a balkanizing principal in a community in which multiple community stakeholders are in dispute over the mission of the school. We encourage future research to focus on these areas.

We recognize that our analysis was limited in the following ways. We used the 1999-2000 SASS because it provided a unique opportunity to test our theory using nationally representative data. Although we were able to include the most current conceptualizations of leadership, these data are over 10 years old at the time of this writing. Since the passing of No Child Left Behind in 2001, the accountability climate in schools has changed. This increase in academic standards and testing may shift the membership across types or change the number and description of principal types. We attempted to account for the changing accountability context by including "have and met state or district goals" in the model. In addition, no other study has demonstrated how principals' perceptions of their leadership style group into principal types using nationally representative data. Future studies should use more recent data to confirm these results.

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Appendix A

Descriptives of Dichotomous Variables From Model Sample

Principal Leadership	SASS Variable	Min	Max	*M*	*SD*
Managerial tasks					
Maintain physical security	A0204	0	1	.94	.23
Manage school facilities	A0205	0	1	.94	.23
Supervise staff	A0198	0	1	.84	.37
Attend district meetings	A0206	0	1	.56	.50
Transformational leadership					
Attend professional development with teachers	A0163	0	1	.90	.30
Develop public relations	A0203	0	1	.74	.44
Facilitate achievement of school mission	A0197	0	1	.70	.46
Build professional community	A0202	0	1	.66	.47
Provide professional development activities	A0201	0	1	.37	.48
Instructional leadership					
Guide development of curriculum	A0199	0	1	.63	.48
Facilitate student learning	A0200	0	1	.81	.39

Appendix B

Descriptives of Continuous Variables From Model Sample

Variable	SASS Variable	Min	Max	*n*	*M*	*SD*
Percentage of teachers teaching to high academic standards	A0173	0	100	7,650	78.62	18.52
Principal perception of social disorder	Mean of A0130-0131, 0133-0136, 0138-0141, α = .85	0	2.80	7,650	0.84	0.47
Shared leadership with teachers						
Transactional leadership						
Evaluation of teachers	A0105	0	4	7,650	2.06	1.23
Hiring of teachers	A0112	0	4	7,650	2.30	1.23
Spending	A0127	0	4	7,650	2.54	1.08
Discipline policy	A0119	0	4	7,650	3.22	0.86
Instructional leadership						
Performance standards	A0081	0	4	7,650	3.04	0.95
Curriculum	A0089	0	4	7,650	3.09	0.92
Professional development program for teachers	A0097	0	4	7,650	3.08	0.90

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Appendix C

Descriptives of School and Principal Background Variables From Model Sample

Variable	SASS Variable	Min	Max	*M*	*SD*
School demographics					
Urban	URBANIC, 1 = Urban	0	1	0.22	0.41
Rural	URBANIC, 1 = Rural	0	1	0.40	0.50
Small enrollment	S0101, 1 = 1-599 students	0	1	0.60	0.50
Large enrollment	S0101, 1 = 1,201-1,800 students	0	1	0.08	0.27
Extra-large enrollment	S0101, 1 ≥ 1,801 students	0	1	0.05	0.21
Elementary level	SCHLEVE2, 1 = Elementary	0	1	0.40	0.50
Percentage of students with IEP	IEP	0	100	14.27	15.00
Percentage of ELL students	LEP	0	100	4.70	13.06
Percentage of students eligible for FRPL	S0284, S0101	0	100	40.73	28.24
Percentage of minority students	MINENR	0	100	30.93	32.14
Percentage of minority teachers	MINTCH	0	100	14.14	22.84
Student-teacher ratio	STU_TCH	0.56	745.60	15.03	9.53
School met district or state goals	PRFMET	0	1	0.59	0.49
Principal background					
Female	A0227, 1 = Female	0	1	0.35	0.48
Asian	RACETH_P, 1 = Asian	0	1	0.01	0.11
African American	RACETH_P, 1 = African American	0	1	0.10	0.30
Hispanic	RACETH_P, 1 = Hispanic	0	1	0.04	0.20
Degree beyond master's degree	A0225	0	1	0.44	0.50
Years of principal experience	PRNEXPER	0	67	8.90	7.73
Years of teaching experience	TCHEXPER	0	42	14.00	7.34

Note. IEP = Individualized Education Program; ELL = English language learner; FRPL = free or reduced-price lunch.

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