

Towards an Evolving Conceptualization of Instructional Leadership as Leadership for Learning: A Meta-Narrative Review of 109 Quantitative Studies Across 25 Years

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ABSTRACT:

Purpose: Instructional leadership has been an active area of educational administration research over the past thirty years. However, there has been significant divergence in how instructional leadership has been conceptualized over time. The present study is a comprehensive review of 25 years of quantitative instructional leadership research, up through 2013, using a nationally generalizable dataset.

Design: We conducted a meta-narrative review of 109 studies that investigated at least one aspect of instructional leadership using the Schools and Staffing Survey (SASS) administered by the U.S. National Center for Education Statistics. **Findings:** There were four major themes of instructional leadership research that analyzed SASS data: principal leadership and influence, teacher autonomy and influence, adult development, and school climate. The three factors most researched in relationship to instructional leadership themes were: teacher satisfaction, teacher commitment, and teacher retention. This study details the major findings within each theme, describes the relationships between all seven factors, and integrates the relationships into a single model. **Value:** This paper provides the most comprehensive literature review to-date of quantitative findings investigating instructional leadership from the same nationally generalizable dataset. This paper provides evidence that leadership for learning is the conceptual evolution of twenty-five years of diverse instructional leadership research.

Keywords: Instructional Leadership, Principals, Schools and Staffing Survey, Literature Reviews, Research Methodology.

INTRODUCTION:

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The job of the principal, as the leader of a school, is a complex and multifaceted endeavor, as has been well documented in the research literature on school leadership over the past decades (Glasman and Heck, 1990; Goodwin et al, 2005; Murphy and Hallinger, 1992). One specific style of leadership that has garnered particular interest is instructional leadership (Hallinger, 2003, 2011b; Urlick and Bowers, 2014). This body of research has contributed several significant findings to the knowledge of how principals positively impact schools and students, such as the importance and roles of school vision, school mission, and goal-setting in aiding school improvement (Hallinger and Heck, 2002; Robinson et al, 2008). Recent investigations have found that principals who emphasize instructional leadership behaviors have a stronger positive impact on student achievement than principals who emphasize other styles of leadership behaviors (Heck and Hallinger, 2009; Louis et al, 2010; Robinson et al, 2008).

The success of the initial framework of instructional leadership (Hallinger and Murphy, 1985) can be seen in the large number of studies using instructional leadership as their theoretical framework (Hallinger, 2005, 2011a). However, over the past three decades many subsequent frameworks of instructional leadership have been put forth in the literature (Krüger and Scheerens, 2012; Marks and Printy, 2003; Robinson et al, 2008; Spillane et al, 2001, 2004), and instructional leadership research has been criticized as lacking a consistent definition across investigations (Neumerski, 2013; Watson, 2005), which raises significant questions for the body of instructional leadership research in two ways (Cavanagh et al, 2004; Neumerski, 2013): (a) what is the overall aim of instructional leadership research and (b) what are the implications, both theoretical and practical, of instructional leadership research?

The focus of the present study centers on these questions, and as we argue below we believe that given the results of our meta-narrative review across over 100 studies, these two questions have the same answer, namely that the growing body of diverse instructional leadership research

has been continuing to conceptually evolve into what our findings suggest is a broader conception of leadership for learning.

Framework of the Study

The first conception of instructional leadership was provided as a framework to enable quantitative research of schools and principal effects and better understand the connections between different individual and organizational constructs within schools (Hallinger and Murphy, 1985) as the literature at that time had not connected school leadership concepts into a framework of specific leadership behaviors that would allow for empirical validation (Bossert et al, 1981; Hallinger, 1981; Murphy et al, 1983). In particular, instructional leadership research was designed to address the problem of "...the [lack of] generalizability of research on effective schools and principals" (p. 219, Hallinger and Murphy, 1985) by addressing "the lack of explanatory models... that has impeded research on school and principal effects" (p. 219, Hallinger and Murphy, 1985). Based on the growing body of research that has relied on this model (Hallinger, 2005, 2011a), these authors might be described as being largely successful in achieving their original aims. However, several competing conceptions of instructional leadership have been suggested over the past three decades since the initial framework was put forth (Rigby, 2013).

Marks and Printy (2003) shift instructional leadership from a principal-centered practice to a shared practice: "Instructional leadership, as we reconceptualize it, replaces a hierarchical and procedural notion with a model of 'shared instructional leadership.'" (p. 371, Marks and Printy, 2003). Their motivation for the shift was based on a body of literature around the empowerment of teachers to have authority around decisions related to schools' instructional programs, the restructuring of schools to include teachers in the management process, and leadership activities being seen as connecting to roles, either formal or informal, and not connecting to a specific position. In short, instructional leadership is not a stand-in for "the principal's instructional management role" (p. 220, Hallinger and Murphy, 1985), but is instead about "principals and teachers both play[ing] a part in forging an effective leadership relationship" (p. 374, Marks and Printy, 2003).

Around the same time Spillane, Halverson and Diamond (2001, 2004) were examining leadership within schools as being performed by both formal and informal leaders within schools. While their framework is generally discussed using the name 'distributed leadership'

(Spillane, 2012), the underlying research studied "several functions that are thought essential for instructional leadership" (p. 24, Spillane et al, 2001), "a variety of instructional leadership tasks" (p. 26, Spillane et al, 2001), and "several functions that are important for instructional leadership" (p. 13, Spillane et al, 2004) through the lens that "leadership practice is distributed over leaders, followers, and the school's situation or context" (p. 11, Spillane et al, 2004). In their conception of how leadership is enacted in schools, Spillane et al (2001, 2004) describe both principals and teachers as performing instructional leadership functions and filling instructional leadership roles, making both principal behavior and teacher behavior elements of instructional leadership practice.

Robinson et al (2008) conducted a meta-analysis of different leadership styles, specifically instructional leadership and transformational leadership. In their framing Robinson et al. (2008) noted that the original instructional leadership framework was limited to the principal (Hallinger and Murphy, 1985) and describe how over time instructional leadership had grown to be inclusive of principals and others (Heck, 2000; Heck et al, 1990; Marks and Printy, 2003) as few principals were themselves able to enact instructional leadership alone (Hallinger, 2005).

This divergence of instructional leadership frameworks comes with costs. For example, Neumerski (2013) argues that "...the ways we have organized studies of instructional leadership into separate and disjointed bodies of literature may constrain our ability to learn how leaders improve instruction" (p. 311) along with describing a need "...to uncover what we know and do not know about instructional leadership, paying particular attention to what—if anything—we have learned about how this work is done and where we fall short of this" (p. 313). Neumerski's argument flows from a line of research within educational leadership that serves to bring together years of research in the interests of both reflecting upon past research practices and using them to help the field move forward (Hallinger, 2013a, 2013b; Hallinger and Heck, 1996). Leithwood et al (2008) called for the use of the evidence collected in their narrative literature review of "seven strong claims about successful school leadership" to be used as a guide for future work, saying:

There are some quite important things that we do know [about successful school leadership], and claims that we can now make with some confidence. Not taking pains to capture what we know not only risks squandering the practical insights

such evidence can provide; it also reduces the likelihood that future leadership research will build cumulatively on what we already know. Failure to build on this would be a huge waste of scarce resources. (p. 15)

The present study follows this tradition of reviewing past research to inform future research through reconnecting with the original aims of instructional leadership research: using generalizable, quantitative research to understand the relationships between leadership and organizational constructs. Thus, using a meta-narrative literature review structure (Greenhalgh et al., 2004, 2005, 2009; Jerzembek and Murphy, 2012; Lauer et al., 2013), this study addresses the following research questions:

1. To what extent can instructional leadership factors be identified within instructional leadership research independent of any one specific instructional leadership framework, and what are the relationships between these factors?
2. What non-instructional leadership factors have been most researched in relationship to the instructional leadership factors above, and what are these relationships?
3. To what extent can the relationships above be integrated and made sense of?

METHODS:

The method we selected for this study is the meta-narrative review method (Greenhalgh et al, 2004, 2005, 2009). The meta-narrative review method was developed to allow researchers to grapple with conceptually complex and varied bodies of research (Greenhalgh et al, 2009). This makes it more appropriate for this study than a meta-analysis, which is of reduced value when reviewing collections of relationships across many variables (Glass, 1976; Hallinger, 2013a).

We returned to the original purposes of instructional leadership to inform our initial literature search strategy (Hallinger and Murphy, 1985): providing a structured way for leadership functions to be translated into leadership behaviors that could then be translated into models that could be tested quantitatively and generalized across a wide context. Based on this, we decided to only include literature with results that analyzed large nationally generalizable samples, allowing their results to be generalized across school contexts and settings, which led us to limiting our literature search to quantitative research publications. Given recommendations within the literature (Bragge et al, 2007; Porter et al, 2002), we set out to *Boyce & Bowers (2018)*

choose a collection of datasets as the foundation for the review as selecting a central set of data to guide the inquiry provides transparency into our review process and allows this review to be replicated and expanded upon by others (Hallinger, 2013b). The requirements for such a dataset were: the dataset (a) incorporates information that focuses on elements of instructional leadership; (b) includes the multiple perspectives of leadership from both principals and teachers; and (c) uses a large-scale sampling strategy that is generalizable at a national level.

We selected the U.S. Department of Education National Center for Education Statistics (NCES) Schools and Staffing Survey (SASS) (NCES, 1991-2010) as the collection of datasets to serve as the grounding for the present study as these datasets meet all three requirements. First, there are question items on each administration that map to specific elements from multiple conceptions of instructional leadership (Boyce, 2015; Urick and Bowers, 2014; Urick, 2012). SASS was originally intended to measure elements of instructional leadership from its inception (NCES, 1991). Second, SASS includes teacher responses linked to principal surveys and school-level data, allowing for the cross-organizational level interactions that instructional leadership was intended to help measure (NCES, 1991-2010). Lastly, SASS data samples are nationally representative and, with the sampling weights applied, allow for generalizations to all schools and teachers in the U.S. during the survey years (NCES, 1991-2010).

To ensure that the search criteria captured studies from the literature that addressed the methodological concerns detailed above, our criteria for including a document in the present study were that the study: included at least one year of data from SASS in its analysis, used the SASS data for some type of statistical analysis beyond descriptive statistics, and investigated at least one aspect of instructional leadership. The reason for the first two requirements is to ensure that the documents significantly quantitatively analyzed SASS data. Many studies citing SASS data do so for background information in their introductions, literature reviews, etc. while the analysis of the studies may be qualitative or quantitative without using SASS data.

Our literature selection process involved several rounds of review using successively more detailed criteria (De Bakker et al, 2005; Lauer et al, 2013), allowing us to ensure that the literature reviewed within this study is pertinent in answering our research questions (Hallinger, 2013b). The initial search for “Schools and Staffing

Survey” within five education research literature databases (JSTOR, EBSCOhost Research Databases which includes H.W. Wilson databases and ERIC, ProQuest, Scopus, WorldCat) generated 4,629 non-mutually exclusive results, which after removing duplicate entries resulted in 3,640 unique studies. A separate database query for “SASS” in titles and abstracts was conducted to support the comprehensiveness of the original search string. The results were added to our review and, after duplicates and non-education results were removed, there were a total of 3,957 studies. As a final check for comprehensiveness, we searched for “Schools and Staffing Survey” in Google Scholar. The search generated “About 4,180 results” and the first 1,000 results were added (as allowed by Google Scholar). The final count of results at the end of the literature search portion of the collection process was 4,563 studies.

Having compiled information for 4,563 studies, we then reviewed the titles to determine whether or not they were likely to have investigated instructional leadership. Based on aforementioned research into instructional leadership, we used six content criteria to evaluate whether or not a study would be included for further consideration: school vision, school climate, school culture, supervision and/or evaluation of curriculum and/or instruction, any form of leadership, such as principal leadership or teacher leadership, and management and/or implementation of teacher, adult, and/or professional development. This step resulted in 1,327 studies remaining for further consideration. The abstracts of these were then read in full and reviewed using the same criteria, concluding with 692 studies remaining for further consideration.

Having been reviewed for content relevance, we then reviewed the studies for methods relevance. In order for a study to pass the methods review it must have applied some significant statistical analysis beyond descriptive statistics to at least one year of SASS data. Examples of significant statistical analyses include (but are not limited to): correlations, chi-square tests, ordinary least-squares regressions, logistic regressions, structural equation modeling, or any statistical test that included a p-value. The methods review resulted in 131 studies that were then read in full.

We reviewed the texts of these 131 studies focusing on the study’s research questions, methods, and results. Texts were removed from consideration if they were discovered to not meet the methods criterion upon closer inspection. This yielded 111 works for final inclusion. Two of these were unable to be located in full text: one was a

dissertation that the author did not allow the university to distribute, and the other was a text that was out of print and could not be located through interlibrary loan. In the end, the literature search phase of this study concluded with 109 studies remaining for inclusion in the findings of this study, consisting of journal articles, dissertations, books, conference papers, government-sponsored reports, and papers published by independent research institutions.

The analysis of this study consisted of multiple reviews of the 109 SASS instructional leadership studies. The first reviews of these studies focused on coding the studies thematically by the research topics they investigated. As recommended by the literature (Fereday and Muir-Cochrane, 2008; Lauer et al., 2013), we relied upon our prior knowledge of instructional leadership (Hallinger and Murphy, 1985; Robinson et al, 2008; Marks and Printy, 2003; Spillane et al, 2001, 2004) to provide us with an initial set of codes while also creating new emergent codes throughout the review process using the research questions and results of the reviewed literature as our guide. Our initial codes were based on the six criteria that we used to guide our literature inclusion selection: school vision, school climate, school culture, supervision of curriculum, supervision of instruction, principal leadership, teacher leadership, and professional development. During this review it became apparent that the initial set of codes was insufficient to capture all of the factors of interest to the authors of the 109 studies. A list of emergent codes was drafted during this initial coding process. All of the literature was reviewed a second time using both the initial codes and the list of emergent codes. Our complete set of final codes along with study counts can be found in Appendix A. After the coding reviews were completed we identified the major themes within the codes and the literature based on the conceptual proximity of related codes and the findings within each study. In the end there were four instructional leadership themes that emerged based on the number of studies within the themes.

We reviewed again the 109 instructional leadership SASS studies within their thematic groups based on the four emergent instructional leadership themes. The information collected during this review process is detailed in the online supplement Appendix S1 due to its length. Online Appendix S1 (<https://doi.org/10.7916/D8H13DNN>) contains the following information for each study: author, year, literature type, SASS years, quantitative analytical methods, independent variables of interest, dependent variables of interest, and effect sizes of interest.

The major findings of each study were extracted, and once extracted the findings were grouped based upon the conceptual relationships that they explored. Areas of agreement within the literature's findings were synthesized into summary findings while areas of disagreement within the literature's findings were noted, detailed, and (when possible) reconciled. Additionally, we assess the empirical evidence across the literature for each relationship. Our assessment of the evidence of relationships parallels the grading criteria used by the Institute of Education Sciences' What Works Clearinghouse procedures for combining evidence (IES, 2014) and prior meta-narrative research (Greenhalgh et al, 2004; Øvretveit, 2003):

- **Strong evidence:** highly consistent findings in three or more primary studies with strong design and sound methodology.
- **Moderate evidence:** highly consistent findings in three or more primary studies with somewhat inappropriate designs and/or methodology.
- **Limited evidence:** either inconsistent findings across many studies without clear reconciliation or findings limited to only one or two primary studies.

RESULTS:

In this section we present narrative summaries resulting from our systematic review and analysis of 109 studies focused on instructional leadership using SASS data following the inclusion criteria noted in the methods above. The four most researched themes of instructional leadership within the body of reviewed literature are: principal leadership and influence, teacher autonomy and influence, adult development, and school climate. The three non-instructional leadership factors that were researched most often in relationship to these themes are: teacher satisfaction, teacher commitment, and teacher retention. We describe the major findings between these four instructional leadership themes and three non-instructional leadership factors below using a format in which we first list a summary of the evidence, then provide a brief description of the evidence, and then move to the next theme in the list to provide an initial "parts list" of the components of the evidence to date for each theme across the 109 studies. After listing the summary of the evidence for each theme, we then turn to a discussion of the relationships and connectedness between the themes. Table 1 provides a summary of the themes, factors, and relationships.

1. Principal Leadership and Influence

Summary: The instructional leadership theme with the greatest number of studies was principal leadership and

influence. Some examples of principal leadership behaviors studies include: building community, providing professional development, leading curriculum creation, supervising teachers, communicating the vision/mission of the school, and supporting student learning. The research consensus is that principal leadership and influence has strong effects on school climate, teacher satisfaction, teacher commitment, and teacher retention.

Evidence: 52 of the 109 SASS instructional leadership studies explored some aspect of principal leadership and influence. Four relationships of interest were investigated within the SASS instructional leadership literature:

(a) **Principal Leadership and School Climate:** We found moderate evidence in the literature demonstrating significant connections between principal leadership and school climate (Baytop, 2001; Brown, 2004; Cannata, 2007; Fultz, 2011; Kim and Liu, 2005; Kirkhus, 2011; Moon, 2012; Sclan, 1993; Singh and Billingsley, 1998; Ware and Kitsantas, 2007; Weathers, 2011). There was moderate evidence of principal leadership behaviors significantly affecting teacher community (Brown, 2004; Cannata, 2007; Kim and Liu, 2005; Kirkhus, 2011; Sclan, 1993; Singh and Billingsley, 1998; Ware and Kitsantas, 2007; Weathers, 2011) with limited evidence of principal leadership behaviors affecting in-school violence (Baytop, 2001) and teachers' individual and collective self-efficacy (Moon, 2012).

(b) **Principal Leadership and Teacher Satisfaction:** The instructional leadership research contained moderate evidence in identifying a significant relationship between principal leadership and teacher satisfaction (Johnson, 2005; Kirkhus, 2011; Sentovich, 2004; Stockhard and Lehman, 2004; Tickle et al, 2011; Tickle, 2008; Williams, 2012), though the literature was not unanimous (Jackson, 2007). There is limited evidence of principal support acting as a mediator (Tickle et al, 2011) and a moderator (Johnson, 2005) on teacher satisfaction.

(c) **Principal Leadership and Teacher Retention:** There is moderate evidence that principal leadership behavior has both direct (Bond, 2012; Jackson, 2007, 2012; Urlick, 2012; Weiss, 1999; Williams, 2012) and indirect effects (Stockhard and Lehman, 2004; Tickle, Chang and Kim 2011; Tickle, 2008) on teacher retention. There was limited evidence of a negative association between the amount of principal influence and teacher retention (Jackson, 2007, 2012) and a positive association between administrative support and teacher retention (Tickle, 2008; Tickle et al, 2011).

TABLE 1: Relationships Between Instructional Leadership Themes and Human Resource Factors

This table summarizes the relationships between the four instructional leadership themes and three human resource factors discussed in the results sections, the number of studies investigating that relationship, the degree of evidence assessed for each relationship, and the rationale for each assessment.

<i>Theme/Factor</i>	<i>Number of Studies</i>	<i>Level of Evidence</i>	<i>Rationale</i>
<i>Principal Leadership and Influence</i>			
Teacher Autonomy and Influence	3	Moderate	Lack of multilevel modeling
School Climate	11	Moderate	Lack of multilevel modeling
Teacher Satisfaction	7	Moderate	Lack of multilevel modeling
Teacher Commitment	1	Limited	Number of primary studies
Teacher Retention	9	Moderate	Lack of multilevel modeling
<i>Teacher Autonomy and Influence</i>			
Adult Development	3	Moderate	Lack of multilevel modeling
School Climate	3	Moderate	Lack of multilevel modeling
Teacher Commitment	3	Moderate	Lack of multilevel modeling
Teacher Retention	6	Moderate	Lack of multilevel modeling
<i>Adult Development (Professional Dev.)</i>			
School Climate	3	Moderate	Lack of multilevel modeling
Teacher Satisfaction	5	Limited	Conflicting findings without clear resolution
Teacher Retention	6	Limited	Conflicting findings without clear resolution
<i>Adult Development (Teacher Induction)</i>			
Teacher Satisfaction	1	Limited	Number of primary studies
Teacher Retention	13	Moderate	Lack of multilevel modeling
<i>School Climate</i>			
Teacher Satisfaction	11	Strong	Sufficient number of primary studies, appropriate methodology
Teacher Commitment	4	Moderate	Lack of multilevel modeling
Teacher Retention	7	Moderate	Lack of multilevel modeling

(d) Principal Leadership and Teacher Commitment: There is limited evidence that principal influence has a negative impact on teacher commitment (Ware and Kitsantas, 2011), which the authors theorized was due to high principal influence being associated with teachers having low perceptions of their efficacy.

2. Teacher Autonomy and Influence

Summary of Findings: The second instructional leadership theme identified within the SASS instructional leadership research is teacher autonomy and influence. As detailed below, the literature demonstrates a complex, reciprocal relationship between teacher influence and principal influence as well as significant impacts on school climate, teacher commitment, and teacher retention.

Evidence of Relationships of Interest: 44 of the 109 SASS studies explored some aspect of teacher autonomy and influence. Four relationships of interest were investigated within the SASS literature:

(a) Principal Leadership and Teacher Influence: There was moderate evidence of teacher influence interacting with principal influence (Gawlik, 2005; Shen and Xia, 2012; Skinner, 2008), however the findings regarding this relationship were disparate. There are conflicting findings regarding whether or not there is a positive (Skinner, 2008) or negative (Gawlik, 2005) association between teacher influence and principal influence. One possibility regarding these conflicting findings is that this relationship is more nuanced than these studies accounted for in their models, as there is limited evidence of the relationship between principal influence and teacher influence varying across school contexts and different leadership functions (Shen and Xia, 2012).

(b) Teacher Influence and Teacher Retention: The SASS instructional leadership literature supported significant connections between teacher autonomy and influence and other important teacher factors. There was moderate evidence of teacher autonomy and influence positively impacting teacher retention (Everitt, 2005; Jackson, 2012; Kendall, 2011; Liu, 2007; Smith and Rowley, 2005; Wells, 1993) and moderate evidence of school-level teacher influence having a larger impact than classroom-level influence (Everitt, 2005; Jackson, 2012; Liu, 2007).

(c) Teacher Influence and Teacher Commitment: There was moderate evidence of teacher influence increasing teacher commitment (Sclan, 1993; Ware and Kitsantas, 2011; Weiss, 1999), framed either as "work commitment"

(teachers trying their best) or "career commitment" (which is related to teacher retention).

(d) Teacher Influence and School Climate: There was also moderate evidence of teacher influence improving school climate for teachers through increasing teacher communication, trust, and community (Cannata, 2007; Hunt, 2003; Weathers, 2011) with limited evidence of teacher influence having a larger impact than principal influence (Weathers, 2011). Some studies did use appropriate multilevel techniques (Liu, 2007; Smith and Rowley, 2005; Ware and Kitsantas, 2011; Weathers, 2011), yet not a sufficient number within any one relationship to meet the requirements of strong evidence.

Other Evidence/Relationships: Literature exploring teacher influence often conceived of teacher influence as being multidimensional (Gokturk and Mueller, 2010) with two common different theoretical types of teacher autonomy and influence: school-level influence and classroom-level influence (Everitt, 2005; Ingersoll, 1993, 1997; Ni, 2012; Rosen, 2007; Skinner, 2008; Smith and Rowley 2005). There was limited evidence of these two different types of teacher influence existing within schools (Everitt, 2005). Ingersoll (1993, 1996) argued for the existence of a third type of teacher influence: social-level influence. There was moderate evidence of social-level teacher influence having larger effect on reducing conflict within schools compared to the other two types of teacher influence (Ingersoll, 1993, 1996, 2003; Michalowski, 2005) with limited evidence of social-level teacher influence reducing teacher turnover (Ingersoll, 2003).

3. Adult Development: Professional Development and Teacher Induction

Summary of Findings: The third instructional leadership theme that emerged from the SASS literature was adult development. The larger theme of adult development runs through the conception of instructional leadership (Hallinger and Murphy, 1985; Marks and Printy, 2003; Robinson et al, 2008; Spillane et al, 2001, 2004) and encompasses the functions performed within the traditional conception of professional development and teacher induction. Mirroring the literature, this section of the results is organized to describe professional development findings and teacher induction findings separately from one another. As detailed below, the research in both areas was mixed. 44 studies of the 109 SASS studies included in this review investigated adult development in some form.

Evidence of Relationships of Interest (Professional Development): Two relationships of interest were investigated in relationship to professional development:

(a) Professional Development and Teacher Satisfaction: There was limited evidence to support a significant association between professional development and teacher satisfaction as across three different studies there were findings of professional development having a significant impact (Williams, 2012), a significant yet moderate impact (Zhang, 2006), or no impact (Cha, 2008) on teacher satisfaction. There was limited evidence that public and private schools having moderate associations while charter schools do not have significant associations (Sentovich, 2004). There was also limited evidence of professional development acting as a partial mediator between administrators and teacher satisfaction (Short, 2012).

(b) Professional Development and Teacher Retention: There was similarly limited evidence to support a significant relationship between professional development and teacher retention. Two studies within the SASS literature contained conflicting results as to whether or not the connection between professional development and teacher retention was significant (Williams, 2012) or non-significant (Cha, 2008). There was limited evidence that professional development reduced teacher turnover with respect to movers yet not leavers (Zhang, 2006). There was also limited evidence that only specific aspects of professional development, such as teachers' assessments of professional development, significantly affected teacher retention (Erickson, 2007). There is also a possibility that teacher retention has a reciprocal relationship with professional development given limited evidence that higher retention predicted higher levels of teachers' professional development assessments (Desimone et al, 2007).

Evidence of Relationships of Interest (Teacher Induction): Two relationships of interest were investigated in relationship to teacher induction:

(a) Teacher Induction and Teacher Retention: The majority of SASS literature regarding teacher induction examined the relationship between teacher induction and teacher retention. There was moderate evidence of teacher induction having positive impacts on both stated and actual teacher retention (Anderson, 2010; Brown, 2004; Cohen, 2005; Duke et al, 2006; Goldberg, 2012; Kang and Berliner, 2012; Kang, 2010; Kim and Liu, 2005; McBride, 2012; Smith and Ingersoll, 2004; Williams, 2012), though the findings were not unanimous (Antoine, 2011; Pagerey,

2006). There was limited evidence that the effect of teacher induction on teacher retention decreased over time (Kim and Liu, 2005).

(b) Teacher Induction and Teacher Satisfaction: Beyond teacher retention, teacher induction has limited evidence of improving teacher satisfaction (Anderson, 2010).

4. School Climate

Summary of Findings: School climate was the fourth instructional leadership theme within the SASS literature. Some examples of school climate factors include: student behavior, teacher collaboration, communication, teacher absenteeism, threats and violence, student tardiness, and student apathy. As detailed below, the literature supports school climate having significant impacts on teacher satisfaction, teacher commitment, and teacher retention. School climate was the only instructional leadership theme containing a relationship that fulfilled the criteria of strong evidence: the association between school climate and teacher satisfaction.

Evidence of Relationships of Interest: There were 42 of the 109 SASS studies included in this review that explored some aspect of school climate. Five relationships of interest were investigated:

(a) School Climate and Teacher Satisfaction: The relationship between school climate and teacher satisfaction was the largest area of school climate investigation within the SASS literature. There was strong evidence demonstrating a significant association between school climate and teacher satisfaction (Cha, 2008; Johnson, 2005; Leslie, 2009; Perie and Baker, 1997; Price, 2012; Sentovich, 2004; Shen et al, 2011; Skinner, 2008; Tickle, 2008; Williams, 1993; Zhang, 2006). An assessment of "strong evidence" was possible for this relationship due to the large use of multilevel modeling and structural equation modeling. School climate and teacher satisfaction were demonstrated to be distinct constructs as school size impacted school climate yet not teacher satisfaction and school socio-economic factors impacted teacher satisfaction yet not school climate (Kirkhus, 2011).

(b) School Climate and Teacher Commitment: There was moderate evidence demonstrating a significant association between school climate and teacher commitment (Keefe, 2008; Sclan, 1993; Singh and Billingsley, 1998; Wells, 1993) with limited evidence that school climate was the top factor in predicting teacher commitment (Sclan, 1993). There was also moderate evidence of school climate

affecting teacher retention rates (Bond, 2012; Brown, 2004; Pagerey, 2006; Riehl and Sipple, 1996; Wei, 2012; Weiss, 1999; Zhang, 2006). There was limited evidence that both adult- and student-level school climate elements affected teacher retention (Brown, 2004; Weiss, 1999).

(c) School Climate and Principal Leadership: There was limited evidence that several principal leadership behaviors positively impacted school climate, including the distribution of decision-making and engaging in community-building behaviors (Fultz, 2011; Weathers, 2006, 2011) and communicating expectations and recognizing progress toward those expectations (Weathers, 2006).

(d) School Climate and Teacher Influence: There was limited evidence supporting that the amount of teacher leadership within a school also positively affected school climate (Xie, 2008).

(e) School Climate and Adult Development: There was moderate evidence of a significant relationship between these two themes, as several professional development factors influenced school climate (Grotsky and Gamoran, 2003), including more hours and support devoted to professional development (Swimpson, 2005), peer observation practices (Swimpson, 2005), and teachers' ability to influence their professional development activities (Weathers, 2006).

Integrated Model of Instructional Leadership Relationships

The four instructional leadership factors within the SASS instructional leadership literature were: principal leadership and influence, teacher autonomy and influence, adult development, and school climate. The findings above detail the evidence supporting significant relationships between these four instructional leadership themes as well as the relationships they have with three other factors that emerged from the literature: teacher satisfaction, teacher commitment, and teacher retention. In continuing with our synthesis, we combined the major relationships between the instructional leadership themes and emergent factors into an integrated model consisting of instructional leadership and human resource management (Armstrong, 2012; Berman et al., 2012) (see Figure 1).

The findings of this study describe how four instructional leadership factors relate to one another: teacher autonomy and influence and principal leadership serve as the foundation of instructional leadership with a reciprocal relationship between them, adult development is affected

by teacher autonomy and influence, and all of these three factors contribute to school climate, which in turn acts as a significant bridge between instructional leadership and the three emergent factors. The body of SASS literature also spoke to three emergent themes: teacher satisfaction, teacher commitment, and teacher retention. The findings of this study provide moderate evidence for a model for how these three factors related to one another: teacher satisfaction impacts teacher commitment, which itself impacts teacher retention.

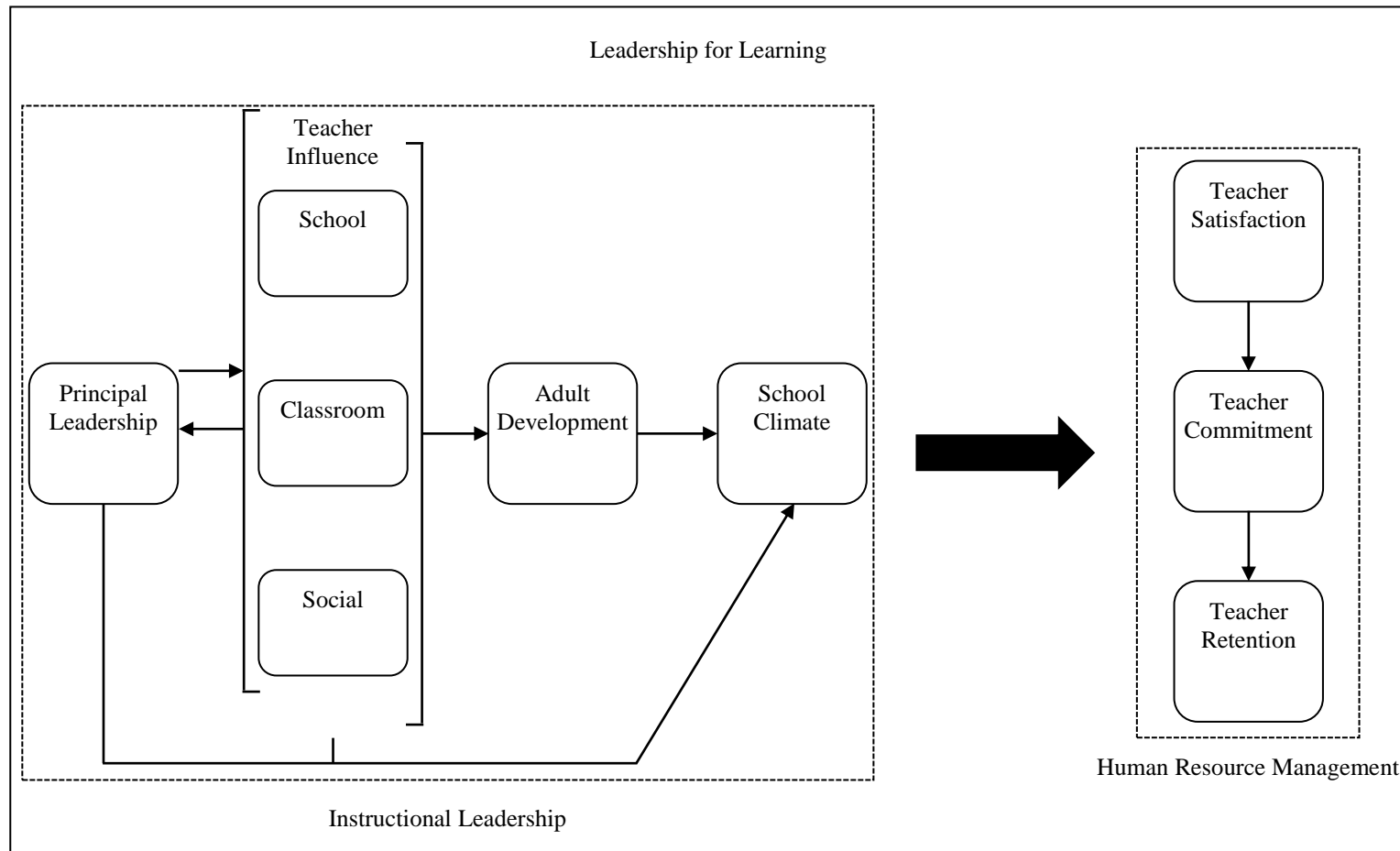
Given the evidence from this meta-narrative review, our results suggest that researchers who have studied instructional leadership have established significant relationships between instructional leadership and human resource management. These relationships are significant both to the degree that they are supported by evidence and to the degree that they are active areas of inquiry with the field of education leadership. In comparing the integrated model of instructional leadership supported by this meta-narrative review to contemporary conceptualizations of school leadership, we notice significant overlap between the integrated model and the leadership for learning framework (Bowers et al, 2017; Murphy et al, 2007; Robinson, 2011).

Limitations

The results of the present study are limited in two main ways. First, the body of literature was restricted to research that used SASS data. Because of this, many school leadership factors and effects (such as indirect leadership effects on student achievement) and active areas of interest (such as school improvement) were largely absent from the body of literature reviewed within this study. Similarly, changes made to SASS over time make cross-administration analyses very difficult (Boyce, 2015). Several authors who incorporated multiple administrations of SASS data in their analyses noted significant limitations and difficulties in doing so due to different administrations asking different questions (Choy et al, 2006; Parise, 2011), using different measurement scales (Shen and Ma, 2006; Sparks, 2012), and using different question wordings (Parise, 2011).

Second, only literature that performed quantitative analysis was included in this review. We have previously articulated the rationale and benefits of such a focus; however we must emphasize that there is a significant cost to this approach as well. Methodologically, the restriction to quantitative research means that relationships between instructional leadership and other school factors can be identified, but they cannot be fully understood. Moreover,

FIGURE 1: Joint Framework of Instructional Leadership Based on SASS Literature



many of the seminal works in instructional leadership, such as Marks and Printy (2003) and Spillane et al (2001, 2004), were *a priori* excluded from consideration in this review. The ability to compare across studies and generalize across contexts comes at the price of only being able to refer to a narrow portion of the field.

DISCUSSION:

The purpose of this study was to explore a body of generalizable quantitative instructional leadership research, identify instructional leadership factors within the research, describe relationships within the instructional leadership factors and other emergent factors, and integrate those relationships into a single model. We have four major findings within this study. First, we have identified the four most researched instructional leadership factors across 109 quantitative studies: principal leadership and influence, teacher autonomy and influence, adult development, and school climate. Second, we have identified the three emergent factors that were researched most often in relationship to these themes within this body of the literature: teacher satisfaction, teacher commitment, and teacher retention. Third, we have described the relationships between these instructional and emergent factors and assessed the evidence regarding each of these relationships. Fourth, we have integrated the relationships into a single model that maps how the factors and relationships fit together.

Our study speaks to our integrated model of our findings and how they may extend to other areas of educational leadership research. Our findings regarding instructional leadership's relationships with teacher satisfaction, teacher commitment, and teacher retention raise two important questions. First, what is the theoretical underpinning for investigating how instructional leadership relates to these three elements? Second, is there a theoretical basis for grouping teacher satisfaction, teacher commitment, and teacher retention together into the same framework? Instructional leadership conceptual frameworks aim to explain how principals and teachers interact with respect to leadership behaviors, instructional behaviors, and effects on students (Hallinger and Murphy, 1985; Marks and Printy, 2003; Robinson et al, 2008). They do not explain how teacher satisfaction, teacher commitment, and teacher retention relate to leadership behaviors, student effects, or each other.

Indeed, emerging research in educational leadership has begun to address these issues through the recently articulated conception of leadership for learning. The literature regarding leadership for learning is a natural

counterpart to instructional leadership, given the high degree of overlap between the two theories of school leadership (Hallinger, 2011b). The connection is evident when comparing frameworks of leadership for learning (Bowers et al, 2017; Murphy et al, 2007) with frameworks of instructional leadership (Marks and Printy, 2003; Robinson et al, 2008), revealing significant commonalities such as focusing on developing and implementing school vision, leading and supervising the instructional and curricular program of schools, strategic school resource allocation, and more. However, where leadership for learning begins to differ is that it extends beyond the instructional leadership framework into other areas. For example, hiring staff is an element of leadership for learning (Murphy et al, 2007) that is not shared with instructional leadership. Building teacher commitment similarly occupies the space between instructional leadership and leadership for learning (Robinson, 2011). While adult development is clearly within instructional leadership as noted previously, leadership for learning goes beyond this into general staff support (Murphy et al, 2007). Furthermore, turning to human resource management literature (Armstrong, 2012; Berman et al, 2012), we see that all three elements of teacher satisfaction, teacher commitment, and teacher retention can be collected within this framework.

Given the theoretical foundations of leadership for learning, the research reviewed for this study provides evidence for the interconnectedness of instructional leadership and the leadership for learning framework. Specifically, the literature reviewed in this study supports a leadership framework incorporating dimensions of instructional leadership and elements of human resource management, which is in strong alignment with theory of leadership for learning (see Figure 1). We encourage others within our field to examine the relationships between instructional leadership and leadership for learning, in particular through using literature beyond the 109 quantitative studies reviewed for this study.

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APPENDIX A: Thematic Coding Scheme

This table summarizes the thematic coding scheme used in the present study. The numbers of studies are included for each code, and each code is labeled as either an “initial code” or an “emergent code.”

<i>Code Type</i>	<i>Code</i>	<i>Num. Studies</i>
Emergent	Teacher Autonomy	44
Initial	School Climate	42
Emergent	Teacher Retention	40
Initial	Professional Development	31
Emergent	Teacher Satisfaction	25
Initial	Principal Leadership	23
Emergent	Administrative Support	22
Emergent	Teacher Induction Programs	16
Emergent	School Performance	12
Emergent	School Type	12
Emergent	Teacher Mentoring	11
Emergent	Principal Autonomy	11
Emergent	Comparing different teacher groups	8
Emergent	Parent Involvement	8
Emergent	School Size	7
Emergent	Grade Level	6
Emergent	Accountability	6
Emergent	Principal Preparation	6
Emergent	Instruction	4
Emergent	Principal Experience	4
Emergent	Principal Authority/Power	4
Initial	Teacher Leadership	4
Emergent	Principal Self-efficacy	3
Emergent	Teacher Preparation	3
Emergent	Principal Satisfaction	3
Emergent	Teacher Self-Efficacy	3
Emergent	Teacher Motivation	3
Emergent	Curriculum	2
Emergent	School Safety	2
Emergent	Systemic Change	1
Emergent	State Differences	1
Emergent	Principal Evaluation	1
Emergent	Principal Mentoring	1
Emergent	Principal Induction	1
Emergent	Principal Retention	1
Emergent	Teacher Absenteeism	1
Emergent	Hiring	1
Emergent	Using Data	1
Emergent	School Problems	1
Initial	School Culture	0
Initial	School Vision	0
Initial	Supervision of Curriculum	0
Initial	Supervision of Instruction	0

APPENDIX S1 (PROVIDED AS AN ONLINE SUPPLEMENT):
Characteristics of Instructional Leadership SASS Literature Through mid-2013

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