

FINDING THE FIT: MEASUREMENT AND ASSESSMENT OF DRIVERS OF TEACHER
MOBILITY AND ATTRITION

By

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ABSTRACT

FINDING THE FIT: MEASUREMENT AND ASSESSMENT OF DRIVERS OF TEACHER MOBILITY AND ATTRITION

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This dissertation is a collection of three interrelated studies based on two unique datasets, exploring how teachers' perceptions of "fit" with their environment influence retention. For years, researchers studying organizations and management have been interested in how well individuals fit in at work (Kristof-Brown, Zimmerman, & Johnson, 2005). This dissertation focuses on three types: 1) fit with demands of the job (person-job [P-J] fit); 2) fit with colleagues (person-group [P-G] fit); and 3) fit with the goals and values of the organization (person-organization [P-O] fit). All three types of fit have been found to be significant predictors of employee satisfaction and retention (Kristof-Brown et al., 2002). The analysis incorporates multiple fit measures simultaneously, a strategy recommended by some industrial organizational psychology researchers, but not common in fit research in education (Kristof-Brown, Jansen, & Colbert, 2002; Tak, 2011).

Chapter 1 explores how to use existing survey data from the Schools and Staffing Survey (SASS) and the Michigan Indiana Early Career Teacher Study (MIECT) to create viable measures of teacher fit. I create multiple measures of fit using different analytical techniques, ranging from the relatively simple to more complex: additive linear combinations, composite scales, and factor scores. Because of data collection procedures, all P-O and P-J fit measures are *subjective* measures, as is one of the P-G fit measures; that is, they are created using information

from only survey respondents, not multiple organization members. However, using MIECT data, I also create *objective* P-G fit measures, incorporating information from the primary survey respondent, as well as other close colleagues. Chapter 1 illustrates the oft-repeated challenge of creating reliable fit measures from survey data, and documents alternative methodological approaches for creating both subjective and objective fit measures.

Chapter 2 uses P-J and P-O fit measures created in Chapter 1 as predictors of the likelihood teachers switch schools or leave teaching. Results of this multinomial logistic regression analysis confirm that P-J and P-O fit are both significant predictors of teacher retention. I find that, controlling for a variety of teacher, school, and district characteristics, P-O fit is significantly related to both switching schools ($RRR=0.783$, $p<0.05$) and leaving teaching altogether ($RRR=0.799$, $p<0.05$), while P-J fit is only significantly associated with the odds of leaving teaching ($RRR=0.760$, $p<0.01$).

Finally, Chapter 3 focuses specifically on teachers who are new to the profession, using the P-O and P-G fit measures created in Chapter 1 as predictors of the likelihood that teachers switch schools or leave teaching. Using similar multinomial logistic regressions, I find that, for the early career teachers in this sample, P-O fit is not a significant predictor of switching schools ($RRR=1.227$, $p>0.10$) or leaving teaching ($RRR=1.796$, $p>0.10$). However, subjective P-G fit is a significant predictor of teacher retention, although only for the likelihood of leaving teaching entirely ($RRR=0.443$, $p<0.05$). The objective P-G fit measure is also positively related to retention. Early career teachers whose predominant instructional orientation matches their group of close colleagues are less likely to leave teaching than those who experience misalignment with the group ($RRR=0.339$, $p<0.05$). There is a similar relationship with the likelihood of switching schools, although this result is not statistically significant ($RRR=0.608$, $p>0.10$).

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Introduction

An organization's ability to recruit and retain a sufficient number of high-quality employees is a major source of competitive advantage (Rynes & Barber, 1990) and the skills these employees bring to the organization- that is, their human capital- are key organizational assets (Becker, 1964; Wellman & Frank, 2001). As Pil and Leana (2009) assert, "public schools are organizations in which both intellectual and informational processes are important drivers of performance" (p. 1101). Emerging evidence on teacher "value-added" suggests that teachers are the most important in-school factor in student achievement gains (Hanushek et al., 2005; Kane & Staiger, 2008; Nye, Konstantopoulos, & Hedges, 2004; Rowan, Correnti, & Miller, 2002; Wright, Horn, & Sanders, 1997). Consequently, efforts to improve public education must necessarily address the human capital teachers bring to their classrooms (Pil & Leana, 2009), in addition to any types of changes that alter the organizational or informational processes of schools.

Schools have historically been considered organizations that are "loosely coupled" (Lortie, 1975; March & Olsen, 1976; Meyer & Rowan, 1978). Loose coupling is characterized by lack of "both tight bureaucratic controls over teaching and the kinds of organizational supports that encourage professionalized teaching" (Rowan, 1990, p. 353). Teachers in loosely coupled organizations face fairly uncertain environments, as the goals of schooling are vague and teachers are left on their own to determine when and how to exert effort over their work (Rowan, 1990). Organizations operating under these conditions are particularly reliant on committed employees in order to accomplish their central goals (Ingersoll, 2001).

Considerable policy effort has targeted teacher "quality" or, more recently, teacher "effectiveness." States have long sought to influence teacher quality by implementing policies

which regulate teacher education, selection, and licensure (Darling-Hammond, 1999). These policy interventions typically focused on teacher quality. Because teacher characteristics such as licensure test scores, undergraduate university selectivity, grade point average, amount of education coursework, earned degree, or certification status were relatively easy to measure and relate to student outcomes, these qualifications were frequently studied (for reviews, see Guarino, Santibanez, & Daley, 2006; Wayne & Youngs, 2003) and thought to be areas in which policy makers could directly shape the human capital of the teacher labor force. However, since the passage of the No Child Left Behind Act of 2001, and the recent Race to the Top federal funding competition, the focus of teacher policy has largely shifted away from measured qualifications to effectiveness at raising test scores (Schneider, Grogan, & Maier, *in press*). As Schneider et al. (*in press*) observe, “Being able to align student performance with individual teachers delves deeper into the once ‘closed classroom’ by pinpointing problematic instructional classroom situations” (p. 2).

Schools are experiencing a similar shift in educational policy, one that holds them accountable for student proficiency. Schools that are not able to advance all student subgroups to proficiency encounter a variety of sanctions, including removal of school leaders and teachers (Schneider et al., *in press*). How, then, can schools become organizations composed of individuals who have the knowledge, skills, and abilities to help diverse students succeed academically? An alternative perspective on organizational behavior focuses on the role of individual organization members in creating the cultures that define organizations (Schneider, Goldstein, & Smith, 1995). Specific to schools, it represents a shift away from a “control-based strategy of organizational design” to an emphasis on the individual commitment of the teachers who make up the school (Rowan, 1990, p. 358).

One prominent model of organizational behavior suggests that organizations look and function as they do because of the people that make up the organization (Schneider, 1987; Schneider, Goldstein, & Smith, 1995); that is, “the people make the place” (Schneider, 1987, p. 450). In his attraction-selection-attrition (ASA) theory, Schneider (1987) holds that organizations actively seek individuals who have the types of skills and abilities necessary for carrying out the work of the organization. Further, individuals are attracted to organizations made up of people who are similar to them, and people are likely to leave work environments when other organizational members are not a good match for them.

Schneider (1987) set the stage for combining situational and individual factors in “interactional” studies of *organizational* behaviors guiding employee selection and retention. Chatman (1989) extended the perspective to explain *individual* behavior in the workplace. Chatman fused individual and situational influences by proposing a theory of person-organization fit in which the congruence of individual and organizational goals is a predictor of outcomes related to the work environment. She proposes that the organization should actively use employee selection and socialization to avoid situations where fit is low. In those situations, either the employee must change, the organization must change, or the employee must leave. “Low person-organization fit could have at least three immediate outcomes: The person's values could change and become more similar to the organization's value system, the organization's values could change, or the person could leave the organization” (Chatman, 1989, p. 343). In this way, how well an employee fits in with their work environment has direct implications for the likelihood that they will remain with the organization and feel “comfortable and competent” (Chatman, 1989, p. 343).

When studying teacher recruitment and retention, educational researchers have typically emphasized economic perspectives such as labor market effects or supply and demand (for extensive reviews of these perspectives, see Borman & Dowling, 2008; Guarino, Santibanez, & Daley, 2006), and, to a lesser extent, relied on explanations based on school organizational or social structures (Baker-Doyle, 2010; George et al., 1995; Ingersoll, 2001; Johnson et al., 2004; Singh & Billingsly 1996; Smith & Ingersoll, 2004). Perhaps surprisingly, framing such as Schneider's ASA theory or Chatman's person-environment fit theory is less commonly used in contemporary explorations of teacher turnover. The omission of these perspectives, which stem from personnel or industrial organizational psychology, is surprising, because that field has much to offer, emphasizing "understanding the behaviour of individuals and organizations in the work place; helping individuals pursue meaningful and enriching work; and assisting organizations in the effective management of their human resources (Kline, 1996, p. 206). Given the growing consensus regarding the important role teachers play in student achievement (Sanders & Horn, 1998; Rowan, Correnti, & Miller, 2002; Rivkin, Hanushek, & Kain, 2005) and complaints that the processes used to recruit, hire, and retain teachers are flawed (Rutledge, Harris, Thompson, & Ingle, 2008), understanding how schools can retain top talent is of paramount importance. Person-environment fit theory can be a useful lens for gaining a deeper understanding of teacher turnover.

Purpose of the Study

This dissertation is a series of three chapters exploring how various aspects of teachers' "fit" with their work environment impact mobility. I seek to expand the current literature on teacher retention by considering fit as a primary predictor of mobility. In addition to offering a new perspective on teacher retention, this study makes a contribution to work on person-

environment fit in that, across the organizational literature, there have been relatively few studies which explore multiple types of fit within the same study (Lauver & Kristof-Brown, 2001; Kristof-Brown, Jansen, & Colbert, 2002; Tak, 2011). While I frame this exploration of the role of fit in teacher mobility with an industrial organizational psychology lens, I situate the consequences of teacher turnover in a policy context that seeks to minimize costly turnover of employees, particularly early career teachers and those teachers deemed “highly effective” based on their ability to raise student achievement.

For years, researchers studying organizations and management have been interested in how well individuals fit in at work (Kristof-Brown, Zimmerman, & Johnson, 2005). Researchers have done this by gathering information directly from individual employees (thus measuring *subjective* fit) or from multiple members of the organization (measuring *objective* fit). While there are numerous conceptualizations of fit at work, the three chapters in this dissertation focus on three types of teacher fit: 1) fit with the demands of the job (person-job fit); 2) fit with colleagues (person-group fit); and 3) fit with the prevailing goals and values of the employing organization (person-organization fit). All three types of fit have been found to be significant predictors of employee satisfaction and retention (Kristof-Brown et al., 2002).

This dissertation explores questions related to teacher fit using existing survey data from the 2003-04 Schools and Staffing Survey (SASS) and the 2008-2009 Michigan Indiana Early Career Teacher (MIECT) Study. In Chapter 1, I review existing research on these three types of fit at work. I consider the methods psychologists have used to measure these three types of fit, and then using these two education data sets, apply these approaches to measuring fit to an educational context. This analysis sets the stage for the two chapters that follow. In the final two chapters, I use the newly created teacher fit measures as predictors of teacher retention, focusing

explicitly on new teachers in Chapter 3. More details about the three chapters are provided below. The dissertation concludes with a discussion of the findings in light of policy concerns such as retaining the most effective teachers and, more broadly, avoiding burdensome costs associated with teacher turnover.

Study Design and Methodology

In Chapter 1, I set out to answer the guiding question: *What fit measures for teachers can be created from existing survey data, and how do these measures compare to each other?* I calculated multiple measures of person-organization (P-O), person-job (P-J), and person-group (P-G) fit from two distinct data sources. After creating these multiple measures, I assessed the relationships between them, and conducted exploratory analysis to determine which measures were potentially significant predictors of teacher retention.

I followed a similar process for the creation of fit measures in each dataset. I began by reviewing the literature to determine which survey items were commonly used in measurements of fit. In doing so, I was able to identify approximately five to eight individual survey items in each dataset which were theoretically related to one of the three types of fit. After identifying this series of survey items, I created multiple measures of fit using different analytical techniques, ranging from the relatively simple to more complex: additive linear combinations, composite scales, and factor scores. Because of the data collection procedures, all of my P-O and P-J fit measures were *subjective* measures, as was one of the P-G fit measures; that is, they were created using information from only the individual survey respondents, not multiple organization members.¹ However, using MIECT data, it was also possible to create *objective* P-G fit

¹ In the strictest sense, both datasets do in fact contain the perspective of “multiple organization members,” because there were multiple teachers from the same school who completed each of these surveys. However, because the sampling strategy was not explicitly designed to allow for the collection of objective fit measures, the responses were not used in this way. The exception is

measures, incorporating information from the primary survey respondent, as well as other close colleagues.

After creating these multiple alternative measures, I engaged in an exploratory analysis to determine how the alternative measures compared to each other. By creating a series of “nested” logistic regression models, I was able to look at model fit statistics to determine which measures were the strongest amongst the alternatives.

In Chapter 2, I addressed three research questions using a nationally representative sample of public school teachers: 1) *How is fit with teaching related to the likelihood of switching schools or leaving the profession?*; 2) *How is fit with the school related to the likelihood of switching schools or leaving the profession?*; and 3) *When teachers leave their original school, do they assess fit to be higher in their new school? If so, what factors are associated with improved fit?* In posing these research questions, I hypothesized that low levels of P-J fit would be associated with increased odds of leaving the teaching profession but not related to the odds of switching schools; that low levels of P-O fit would be associated with increased odds of moving or leaving teaching entirely; and finally, that movers would experience higher levels of P-O fit in their new organization.

To address these research questions, I used multinomial logistic regression models to explore the odds of switching schools or leaving teaching, with the subjective P-J and P-O fit measures created in Chapter 1 as primary predictors. Because of the complex survey sample design of the Schools and Staffing Survey dataset used in this analysis, I pursued a design-based approach using Stata’s svy set of commands, and controlled for a variety of teacher, principal, school, and district characteristics in the analysis.

the sociometric data collected in the MIECT study, which was intended to deliberately capture the perspective of an entire social network. For this reason, a series of MIECT survey items *are* used in the creation of objective fit measures.

In Chapter 3, I addressed two research questions using a sample of early career public school teachers in two Midwestern states: 1) *How is fit with the school related to the likelihood of switching schools or leaving the profession?*; and 2) *How is fit with the group of close colleagues related to the likelihood of switching schools or leaving the profession?* I hypothesized that, much like in Chapter 2, low levels of P-O fit would be associated with increased odds of switching schools or leaving teaching entirely, while low levels of P-G fit would be significantly related to increased odds of switching schools, but not related to the odds of leaving teaching.

To address these research questions, I again used multinomial logistic regression models to explore the odds of switching schools or leaving teaching, incorporating fit measures created in Chapter 1. In this analysis, I included subjective P-O fit measures, and both subjective and objective P-G fit measures, as the primary predictors of early career teacher retention. I adjusted standard errors to account for the clustering of teachers within schools, and controlled for a variety of teacher and school characteristics in the analysis.

Taken together, these three studies contribute to the research literature in significant ways. First, using two different datasets, I explored teacher “fit,” a concept that is rarely used to explore teacher career decisions, though frequently used when considering similar outcomes for other types of professionals. These datasets (one nationally representative, one specific to Midwestern states) allowed for a comprehensive look at teacher retention; by incorporating both of these datasets into the analysis, it was possible to study teachers with varying levels of experience, teaching across a range of grade levels, in both charter and traditional public schools. Further, the available data allowed for the measurement of multiple types of fit, and the creation of both subjective and objective fit measures; this approach has been somewhat limited in

existing research. Finally, the findings from these studies have important implications for policy efforts to retain teachers- both early career teachers and more experienced teachers- which can benefit districts and schools by cutting down on turnover, which has real financial, organizational, and social costs.

References

References

- Baker-Doyle, K. (2010). Beyond the labor-market paradigm: A social network perspective on teacher recruitment and retention. *Education Policy Analysis Archives*, 18(26), 1-17.
- Becker, G. (1964). *Human capital*. New York: Columbia University Press.
- Chatman, J. (1989). Improving interactional organizational research: A model of person-organization fit. *Academy of Management Review*, 14(3), 333-349.
- Darling-Hammond, L. (1999). Teacher quality and student achievement: A review of state policy evidence. *Document R-99-1*. Seattle, WA: Center for the Study of Teaching and Policy.
- George, N., George, M., Gersten, R., & Grosenick, J. (1995). To stay or leave? An exploratory study of teachers of students with emotional and behavioral disorders. *Remedial and Special Education*. 16(4), 227–236.
- Guarino, C., Santibanez, L., Daley, G. (2006). Teacher recruitment and retention: A review of the recent empirical literature. *Review of Educational Research*, 76(2), 173-208.
- Hanushek, E., Kain, J., O'Brien, D. & Rivkin, S. (2005). The market for teacher quality. *NBER Working Paper #11154*. Cambridge, MA: National Bureau of Economic Research.
- Ingersoll, R. (2001). Teacher turnover and teacher shortages: An organizational analysis. *American Educational Research Journal*, 38(3), 499-534.
- Ingersoll, R., & Perda, D. (2010). Is the supply of mathematics and science teachers sufficient? *American Educational Research Journal*, 47(3), 563-594.
- Johnson, S.M. & The Project on the Next Generation of Teachers. (2004). *Finders and Keepers: Helping New Teachers Survive and Thrive in our Schools*. San Francisco: John Wiley & Sons, Inc.
- Kane, T., & Staiger, D. (2008). Estimating teacher impacts on student achievement: An experimental evaluation. *NBER Working Paper #14607*. Cambridge, MA: National Bureau for Economic Research.
- Kline, T. (1996). Defining the field of industrial organizational psychology. *Canadian Psychology*, 37(4), 205-209.
- Kristof-Brown, A., Jansen, K., & Colbert, E. (2002). A policy-capturing study of the simultaneous effects of fit with jobs, groups, and organizations. *Journal of Applied Psychology*, 87(5), 985-993.
- Kristof-Brown, A., Zimmerman, R., & Johnson, E. (2005). Consequences of individuals' fit at

- work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology*, 58(2), 281-342.
- Lauver, K., & Kristof-Brown, A. (2001). Distinguishing between employees' perceptions of person-job and person-organization fit. *Journal of Vocational Behavior*, 59(3), 454-470.
- Lortie, D. (1975). *Schoolteacher*. Chicago: University of Chicago Press
- March, J., & Olsen, J. (1976). *Ambiguity and choice in organizations*. Bergen, Norway: Universitetsforlaget.
- March, J. & Simon, H. (1958). *Organizations*. New York: Wiley.
- Meyer, J. W., & Rowan, B. (1978). The structure of educational organizations. In M. W. Meyer and Associates, *Environments and organizations*. San Francisco: Jossey Bass.
- Nye, B., Konstantopoulos, S., & Hedges, L. (2004). How large are teacher effects? *Educational Evaluation and Policy Analysis*, 26(3), 237-257.
- Pil, F., & Leana, C. (2009). Applying organizational research to public school reform: The effects of teacher human and social capital on student performance. *Academy of Management Journal*, 52(6), 1101-1124.
- Rivkin, S., Hanushek, E., & Kain, T. (2005). Teachers, schools, and academic achievement. *Econometrica*, 73(2), 417-458.
- Rowan, B. (1990). Commitment and control: Alternative strategies for the organizational design of schools. *Review of Research in Education*, 16(1), 353-389.
- Rowan, B., Correnti, R., & Miller, R. (2002). What large-scale, survey research tells us about teacher effects on student achievement: Insights from the prospects study of elementary schools. *Teachers College Record*, 104(8), 1525-1567.
- Rutledge, S., Harris, D., Thompson, C., & Ingle, W.K. (2008). Certify, blink, hire: An examination of the process and tools of teacher screening and selection. *Leadership and Policy in Schools*, 7(3), 237-263.
- Rynes, S., & Barber, A. (1990). Applicant attraction strategies: An organizational perspective. *Academy of Management Review*, 15(2), 286-310.
- Sanders, W. & Horn, J. (1998). Research findings from the Tennessee Value-Added Assessment System (TVAAS) database: Implications for educational evaluation and research. *Journal of Personnel Evaluation in Education*, 12(3), 247-256.
- Schneider, B. (1987). The people make the place. *Personnel Psychology*, 40(3), 437-453.

- Schneider, B., Goldstein, H. & Smith, D.B. (1995). The ASA framework: An update. *Personnel Psychology*, 48(4), 747-773.
- Schneider, B., Grogan, E., & Maier, A. (*in press*). Improving teacher quality: A sociological presage. In M. Hallinan (Ed.), *Frontiers in Sociology of Education*. New York: Springer.
- Singh, K., & Billingsly, B. (1996). Intent to stay in teaching: Teachers of students with emotional disorders versus other special educators. *Remedial and Special Education*, 17(1), 37-47.
- Smith, T., & Ingersoll, R. (2004). Reducing teacher turnover: What are the components of effective induction? *American Educational Research Journal*, 41(3), 681-714.
- Tak, J. (2011). Relationships between various person-environment fit types and employee withdrawal behaviors: A longitudinal study. *Journal of Vocational Behavior*, 78(2), 315-320.
- Wayne, A., & Youngs, P. (2003). Teacher characteristics and student achievement gains: A review. *Review of Educational Research*, 73(1), 89-122.
- Wellman, B., & Frank, K. (2001). Network capital in a multi-level world: Getting support from personal communities. In R. Burt, N. Lin, & K. Cook (Eds.), *Social capital: Theory and research*: 1-33. Chicago: Aldine de Gruyter.
- Wright, P., Horn, S., & Sanders, W. (1997). Teacher and classroom context effects on student achievement: Implications for teacher evaluation. *Journal of Personnel Evaluation in Education*, 11(1), 57-67.

CHAPTER 1

Measuring fit: Using lessons from fit research to generate new measures of teacher fit with the school, the job, and the group of close colleagues

The purpose of this chapter is to explore various alternative measures of teacher “fit” with the work environment, and to conduct exploratory analysis in an effort to understand how these measures relate to each other as potential predictors of teacher retention.

Why is it useful to measure how well a teacher “fits” with her school environment? Theories of “fit” have arisen from a long-established line of research in industrial organizational psychology exploring how people interact with their environments, in an attempt to understand what factors influence desirable employment outcomes such as retention (Chatman, 1989; Kristof-Brown et al., 2005). Person-environment research, which has also been influenced by vocational choice and personality literature, explicitly explores how well people *fit* or match with the supplies and demands of their environment (Edwards & Shipp, 2007; Kristof-Brown et al., 2005; Ryan & Schmitt, 1996).

Scholars of person-environment fit have generally explored these interactions from two distinct, but parallel, conceptions of fit: *complementary fit* and *supplementary fit* (Cable & Edwards, 2004; Edwards & Shipp, 2007; Muchinsky & Monahan, 1987). Complementary fit refers to situations in which a) individuals’ characteristics (e.g., goals, skills, abilities, or values) fill a gap in the needs of a job, organization, or group or b) when the job, organization, or group is able to meet the needs of individuals by providing rewards or experiences which they desire (Cable & Edwards, 2004; Kristof-Brown et al., 2005; Muchinsky & Monahan, 1987). The former situation may be thought of as “demands-abilities” fit, while the latter may be called “needs-supplies” fit (Kristof-Brown et al., 2005; Piasentin & Chapman, 2006). Supplementary fit, on

the other hand, describes situations in which people and organizations are similar in their characteristics, or, simply put, places where people view themselves as “fitting in” (Muchinsky & Monahan, 1987, p. 270).

Person-Job Fit. Person-job fit may be conceptualized as either the correspondence between employee needs and job ‘supplies,’ or alternatively as a match between needs and job ‘demands’ (Edwards, 1991). Person-job fit is generally thought of as a manifestation of complementary fit, and, more specifically, of demands abilities fit (Edwards & Shipp, 2007). Given the nature of the data used in the chapters that follow, I operationalize P-J fit as congruence between employee needs and the demands of the teaching profession, although historically there has been less research into the job demands conceptualization of P-J fit (Edwards, 1991). When individuals have the abilities required to complete the tasks of a given job, person-job fit is said to be high (Edwards, 1991; Kristof-Brown, et al., 2002). It should also be noted that the tasks of the job are distinct from the organization in which the job tasks are performed (Kristof, 1996), and will be treated as distinct in the chapters that follow. In fact, Lauver and Kristof-Brown (2001) demonstrate that job fit and organizational fit are distinct concepts to employees, and are often uncorrelated when assessed simultaneously.

Existing research suggests that P-J fit is positively related to individual performance and adjustment at work, and significantly predicts attitudes toward the organization (Caldwell & O'Reilly, 1990). Some older studies of P-J fit found no significant relationships with organizational commitment, including studies with teachers as participants (e.g., Alutto & Belasco, 1972). However, more recent research has uncovered relationships such that high levels of P-J fit have been found to be positively associated with organizational commitment and job-focused satisfaction, and negatively associated with intent to quit, which is particularly relevant

for studies with retention as the primary outcome (Kristof-Brown et al., 2005; Lauver & Kristof-Brown, 2001). It is unclear if any existing studies have explored not only the intent to remain in the current job, but also, more generally, intent to remain in the profession. Consequently, in this chapter, I create multiple alternative measures of P-J fit to be used predictors of teacher retention in Chapter 2.

Person-Organization Fit. P-O fit theory has largely grown out of the supplementary fit tradition of person-environment fit (Cable & Edwards, 2004). Beginning with Tom (1971), various researchers have hypothesized that the degree of similarity between profiles of individuals and employing organizations could have important implications for employee selection, job satisfaction, job performance, and retention. Chatman (1989), widely cited with developing the seminal theory of P-O fit (Kristof-Brown et al., 2005), conceptualized fit as congruence between the values of a person and an organization. This conceptualization grew out of an interactional tradition, incorporating ideas about both the individual (i.e., the “person side”) and the environment (i.e., the “organization side”) in an effort to explain why particular behavioral outcomes were observed. Pursuing questions about behavior from an interactionist perspective is important because, as Chatman (1989) noted, individuals influence, and are influenced by, their situations. She explained, “[T]he tendencies exist for people both to choose situations and to perform best in situations that are most compatible to themselves” (p. 337). While for Chatman (1989), fit measures primarily focused on value congruence, subsequent studies of P-O fit operationalized three additional manifestations of P-O fit: shared goals, common preferences for systems and structures, and similar preferences for work climate (Kristof, 1996).

Studies of P-O fit have focused on its role in attracting employees, motivating them to perform, increasing their satisfaction, and encouraging them to stay on the job. Chatman (1989) notes the importance of the hiring process in identifying individuals who represent a good fit for the organization, writing, "[A] major function of selection processes is to select individuals who have values that are compatible with the organization's values" (p. 344). A recent meta-analysis by Kristof-Brown et al. (2005) of 110 studies that included P-O fit measures provided evidence that high levels of P-O fit had a positive relationship with a candidate's attraction to the organization, the organization's desire to make a job offer, the organization's intent to hire, and the candidate's acceptance of the job. Further, measurements of P-O fit were also highly correlated with employees' organizational satisfaction. Finally, while P-O fit was only weakly correlated with actual job performance, high P-O fit was found to reduce turnover (Kristof-Brown et al., 2005). In this chapter, I use both datasets to create measures of P-O fit, which will be used as predictors of teacher retention in Chapters 2 and 3.

Person-Group Fit. Much like P-O fit, P-G fit has its roots in concepts of supplementary fit (Edwards & Shipp, 2007). At the most basic level, P-G fit is defined as compatibility between coworkers (Adkins, Ravlin, & Meglino, 1996). To date, P-G fit research has been limited, and has tended to focus on the psychological or attitudinal compatibility of team members in work groups (Ferris, Youngblood, & Yates, 1985; Kristof-Brown et al., 2005). An early experimental study found that when group members had high degrees of attitude similarity, perceived group attractiveness and cohesiveness were higher (Good & Nelson, 1971). There is evidence that P-G fit has a moderate, positive correlation with job satisfaction and organizational commitment, while it is negatively correlated with intent to quit. Further, prior research on P-G fit suggests that the degree of similarity between individuals and work team members may be especially

important in assimilation and retention for new organization members (Ferris, Youngblood, & Yates, 1985). In this chapter, I create both subjective and objective measures of P-G fit to use as predictors of teacher retention in Chapter 3.

Literature Review: Measuring fit

Fit, sometimes considered an “elusive” construct (Judge & Ferris, 1992; Rynes & Gerhart, 1990), presents numerous measurement challenges that may ultimately influence any observed relationships between fit and associated outcomes. Vancouver and Schmitt (1991) observed, “Exactly who to ask [about fit]...and how to consider the views of these parties has not been resolved” (p. 335).

In recent years, three general approaches to measuring fit have been outlined in the literature: subjective fit, perceived fit, and objective fit (Hoffman & Woehr, 2006; Kristof-Brown et al., 2005). Studies of subjective fit attempt to directly assess the compatibility of individuals and their environments. When using this approach, the degree of fit is measured simply by asking individuals whether or not they believe that they fit well with the environment (Cable & Judge, 1995; Kristof, 1996; Piasentin & Chapman, 2006). For example, Cable and Judge (1996) asked new hires, “To what degree do your skills and abilities ‘match’ those required by the job?” While measures of subjective fit may be appealing because they are relatively easy to collect and have shown significant relationships with relevant outcomes, there are some important questions regarding the validity of these measures. First, some respondents may be limited by a desire to avoid cognitive dissonance; if asked about fit and satisfaction, it would be difficult for an individual to indicate that they are satisfied by the organization but do not fit well, or vice versa (Kristof-Brown et al., 2005). Further, if survey items do not explicitly describe the values or characteristics that should be considered when interpreting fit, it is not possible to determine

exactly what the respondent is weighing when reporting their subjective level of fit (Kristof, 1996).

While subjective fit is a direct measure of how much an individual believes he or she fits in with the environment, indirect measures such as perceived fit or objective fit attempt to compare ratings regarding individual characteristics with other ratings of environmental characteristics, calculating fit as some function of the similarity or difference between these two perspectives (Hoffman & Woehr, 2006; Kristof, 1996). For example, when using perceived fit measurements, the individual respondent is asked to describe his or her own characteristics, and then to describe the organization or group; the discrepancy between the descriptions is then calculated. Conceptually, this measurement of fit is very similar to subjective measures, the only difference being that individuals are not directly asked about fit, but rather about both personal and organizational descriptors, leaving the calculation of a fit score to the researcher (Hoffman & Woehr, 2006).

Distinct from subjective and perceived fit, objective fit measurements incorporate information from multiple individuals within the same organization. While this approach relies on the collection of self-reported data regarding personal characteristics from the primary respondent, this type of fit calculation also compares respondent data with information collected from other organizational members. By comparing aggregate organizational climate measures with individuals' ratings of their own characteristics, fit is operationalized as the congruence between the two independent descriptions (Hoffman & Woehr, 2006; Piasentin & Chapman, 2006; McCulloch & Turban, 2007). While this method benefits from collecting information about environmental characteristics from multiple members of the organization, it is still limited

by the extent to which organizational members agree on the overall climate (Hoffman & Woehr, 2006; Kristof, 1996).

Across these three broad measurement categories- subjective, perceived, and objective- the actual process of collecting data and calculating something approximating a “fit score” varies widely in the literature. These approaches range dramatically from the simple and straightforward to the comparatively complex, as demonstrated by a recent meta-analysis (Verquer, Beehr, & Wagner, 2003). For example, the most basic way to measure P-O fit is by using a single survey item focused on values congruence, as done in Cable and Judge (1996).² Alternatively, multiple survey items can be combined to create a measure based on more than one item. To calculate a subjective P-O fit measure, Wheeler et al. (2007) relied on three survey items with a five-point scale emphasizing values congruence, which had been used in previous fit studies; the researchers added and averaged the responses to each of the three items to create an overall fit score.³ A similar approach was used by Pogodzinski (2009) in calculating fit; in this study, he created a fit scale by calculating the correlation alpha between survey items, and then created a composite fit measure by averaging these items.⁴ Tak (2011) also relied on fit items obtained from a survey built with items that had been used in prior research, but used a

² Their single-item measure was: “To what degree do you feel your values ‘match’ or fit this organization and the current employees in this organization?” (p. 299). Saks and Ashforth (1997) also use a single-item measure to study P-O fit in new hires: “To what extent does your new job measure up to the kind of job you were seeking?” (p. 406).

³ A similar additive approach is seen in Cable and Judge (1996), in an attempt to create a measure more robust than the single-item measure reported above. After generating a scale from three distinct items, they find that it is strongly related to the single-item measure, and that the single-item measure predicts employment outcomes as well as the measure constructed from multiple items.

⁴ The items used in this study are as follows: “a) my approach to teaching fits in throughout this school; b) my professional interests are the same as those of other teachers throughout this school; c) I identify with other teachers throughout this school; d) my professional goals are the same as those of other teachers throughout this school; e) I matter to other teachers throughout this school; and f) other teachers throughout this school matter to me” (p. 75).

factor analytic approach to combine multiple items into a subjective P-O fit measure.⁵ Yet another approach to calculating P-O fit is seen in McCulloch and Turban (2007). These researchers calculated their objective P-O fit score using q-sort methodology. Respondents rated the personal importance of various job descriptors on a nine-point scale, and these ratings were then correlated with the profile of the organization developed based on the manager's sort of the same items- the correlation between the two profiles was the fit score.⁶ Finally, Vancouver and Schmitt (1991) calculate a D statistic representing the congruence between the mean score of the individual respondent and the mean score provided by his or her supervisor.

Highlighting these varied approaches used to calculate P-O fit- from ostensibly similar survey items- illustrates the wide variation in calculating a measure which purportedly captures the same underlying construct. The lack of consensus on approach underscores just how difficult it is to accurately measure fit. As such, the purpose of this study was to address the guiding question: *What fit measures for teachers can be created from existing survey data, and how do these measures compare to each other?* The present study calculated multiple measures of fit from the same data source, an approach that has been used by other fit researchers (see, e.g., Westerman & Cyr, 2004). After creating these multiple measures, I assessed the relationships

⁵ Kristof-Brown (2000) also employs factor analysis when creating perceived fit measures. The items used to create the P-O fit measure in this study were: "To what degree does this applicant fit with your organization?; To what extent is this applicant similar to other [insert company] employees?; To what extent will other employees think this candidate fits well in your organization?; How confident are you that this applicant would be compatible with your organization?" (p. 660).

⁶ Many fit researchers use the Organizational Culture Profile (OCP; O'Reilly, Chatman, & Caldwell, 1991), a tool that has been validated as a P-O fit measure, which relies on the q-sort methodology. See the meta-analysis from Verquer et al. (2003) for a detailed look at studies employing the OCP as a measure of fit. The 54-item CultureFit tool used by McCulloch & Turban (2007) was derived from the OCP (McCulloch & Turban, 2007). Other studies have used reduced versions of the OCP to streamline the survey completion process (e.g., Cable & Judge (1997) reduced the OCP to a 40-item survey instrument in response to participant complaints that some items were redundant).

between them, and then conducted exploratory analysis to determine which measures were useful predictors of teacher retention,⁷ extending the research base regarding both fit measurement and teacher mobility.

Method

Data

Data came from two distinct data sources: the Schools and Staffing Survey (SASS) and the Michigan Indiana Early Career Teacher Study (MIECT).

Schools and Staffing Survey.

The first data source was the restricted use 2003-2004 Schools and Staffing Survey (SASS) Teacher Questionnaire.⁸ The SASS is the most comprehensive data source available for researching issues of staffing and organization in elementary and secondary schools (Ingersoll, 2001). The SASS consists of a series of linked surveys administered to school district personnel, school principals, and teachers. Only data from the *public school* District, School, Principal, and Teacher Questionnaires are used in this analysis; all results obtained from questionnaires administered to private schools were omitted.

Data were collected for the National Center for Education Statistics by the US Census Bureau using a stratified probability sample design, with the 2001-2002 Common Core of Data (CCD) as the sampling frame. Schools were sampled first, followed by LEAs. Schools were selected with a probability proportionate to the square root of the number of teachers (National

⁷ Note that while I include an exploratory retention analysis here, it is primarily designed as an opportunity to compare these alternative measures to each other. In many ways, this exploratory analysis frames the selection of fit measures for the analyses in Chapters 2 and 3, but the measures chosen for those studies are selected using a combination of existing theory and these exploratory results.

⁸ While there is a 2007-2008 version of the SASS currently available, at the time the present study began, the follow up to the 2007-2008 SASS had not yet been released to researchers, and thus the more recent survey cycle data could not be used.

Center for Education Statistics, n.d.). The schools were selected to be representative at the national and state level.

To obtain the teacher sample, school principals were contacted and asked to submit a list of all teachers currently working in their building. From the school-provided lists, teachers were assigned to strata based on race, assignment in a classroom where students had Limited English Proficiency, and “early career” status (i.e., the teacher had been teaching for 3 years or less). At least one, but no more than 20, teachers from the same school were sampled (National Center for Education Statistics, n.d.).

The SASS also included a Teacher Follow-up Survey (TFS), administered 12 months after the 2003-2004 Teacher Questionnaire, which was sent to a sample of teachers who completed the year 1 Teacher Questionnaire. The TFS was designed to support comparative analysis of teachers who continued teaching in their original schools (“stayers”), who remained in teaching but switch schools (“movers”), and who left the teaching profession (“leavers”). The TFS was stratified by sector (private vs. public), grade level (elementary vs. secondary), and years in teaching (early career vs. experienced). Again, only data from public school TFS respondents were used in this analysis.

To create the final sample of teachers used in this analysis, data from the TFS were merged on to data from the SASS Public School Teacher Questionnaire. This linked the teacher’s responses to the Teacher Questionnaire to the data from the TFS, which was used to determine the teacher’s employment status in 2005. Consequently, the final dataset was limited to only teachers whose 2005 employment status was known. Additionally, the dataset was restricted to include only full-time teachers in a regular public school setting. To this dataset,

information from the District, School, and Principal surveys was merged on; teachers in the same school shared information from these additional surveys.

Because of the complex survey sampling design employed in the SASS, the analyses that follow were conducted using STATA's svy commands, accounting for the design frame, and thus appropriately estimating standard errors.

Michigan Indiana Early Career Teacher Study.

The Michigan Indiana Early Career Teacher Study was a multi-year study of early career teachers' professional relationships and induction experiences. I relied on the survey data from the study to explore the relationships between early career teachers and their colleagues. A sample of early career teachers was surveyed during the 2008-2009 academic year, with a mobility survey following in spring of 2010. Additionally, the mentors and key colleagues of the early career teachers in the study were also surveyed in 2008-09.

District sample. This study included five Michigan districts and five Indiana districts in 2008-09. In selecting the district sample, the goal was to recruit medium-to-large districts in both states that a) served varying student populations with regard to race/ethnicity and socioeconomic status and b) had significant numbers of early career teachers. Because of declining enrollments and tight fiscal budgets, many districts in Michigan and Indiana that served large numbers of low-income and racial minority students did not meet the other criterion for inclusion in this study because they did not hire new teachers for the 2008-09 school year.

Early career teacher sample. Teachers who taught the core-content areas (math, science, social studies, English/language arts, and general elementary) in grades 1-8, and were in their first three years of the teaching profession were invited to participate in the study in 2008-09.

Participation included the completion of a fall and spring survey. The surveys were administered in both electronic and paper form. This analysis used data from the spring survey only.

In an effort to increase participation rates, a five-contact approach was used for each survey administration (Dillman, 2007). A pre-notice letter was sent a week prior to mailing the survey (which included a cover letter and consent form). A two-dollar bill was included in the next mailing (to help increase participation) which included a link to the online survey. Research has shown that including a token incentive (such as a two-dollar bill) improves response rates 19-31 percent over personalized mailing alone (Lesser et al., 1999). A thank you/reminder post card was sent a week later, and a reminder email with the link to the online survey was sent near the survey return deadline. If a prospective study participant did not complete the survey online, they received a paper copy of the survey. Teachers were compensated with a gift card, for use at a bookstore, for completing and returning a survey.

The surveys asked about teachers' instructional practices; the frequency and substance of their interactions with their mentors and colleagues; their perceptions of relations within their schools; their work conditions; and their future career plans. Items regarding teacher background, such as degrees, certification, and college attended, were also asked in the spring.

Follow-up mobility survey. Early career teachers who completed either the fall or spring surveys were also asked to complete a follow-up mobility survey in April 2010. Based on district personnel rosters, we determined if our early career teachers had remained in their 2008-2009 school placements ("stayers"), switched schools within the district ("movers"), or left teaching ("leavers"). Stayers were sent one version of the mobility survey, while movers/leavers received a version that included all the questions asked of stayers, as well as specific questions about the reason for leaving the 2008-2009 placement school. This follow-up mobility survey provided the

data used in the calculation of the P-O and P-J fit measures, and contributed two individual survey items that made up one of the P-G fit measures.

Both versions of the mobility survey included questions regarding each type of fit: person-organization, person-job, and person-group. The early career teachers answered these questions retrospectively, providing information in Spring 2010 about fit with their position in the 2008-2009 academic year. They also rated specific features of their 2008-2009 school placement, as well as the same features relative to whatever job they had in the 2009-2010 academic year (whether that job was within education or outside of education).

Colleague sample. Early career teachers “nominated” up to eight close colleagues on their fall 2008 survey, and those close colleagues were also asked to complete a survey in the spring of 2009. The content of the colleague survey was very similar, asking teachers questions regarding instructional practices, relationships within the school, and working conditions.

Measures

Fit measures calculated in each dataset.

The specific fit measures calculated in each dataset are reflected in Table 1, as well as the approach (subjective or objective) to calculating fit. This table also presents the specific survey items that were components of each of these newly created measures of one of the three types of fit.

Calculating fit with Schools and Staffing Survey Items.

Three alternative approaches to creating fit measures were explored.

Single-items approach. Perhaps the simplest method of measuring P-O fit using the SASS was a one-item subjective measure of fit, obtained directly from the teacher. As such, the first step in the process of uncovering measures of P-O and P-J fit was simply to look at each

item on its own, noting variation in each item and correlations between all items hypothesized to represent P-O and P-J fit, respectively. The frequency of responses to each item is presented in Table 2 below. Further, the mean response to each item, plus the correlations between the items, are reported in Table 3.

Linear combination approach. After considering these items on their own, I created simple linear combinations of the variables that were hypothesized to represent P-O and P-J fit, respectively.

Factor analysis approach. The third and final step in the creation of potential fit measures was to pursue a factor analytic approach. Following the recommendations of Costello and Osborne (2005) and Fabrigar et al. (1999), this analysis relied on exploratory factor analysis with maximum likelihood (ML) extraction methods and oblique (promax) rotation. Promax rotation was chosen over other orthogonal rotation methods because of the likelihood that there was correlation between underlying factors. Decisions about the number of factors to retain were made by identifying factors with an appropriate number of items loading at 0.30 or greater (with minimal cross-loading), studying scree plots over multiple test runs, considering eigenvalues,⁹ and drawing on previous research regarding items thought to comprise different types of fit. The results of this factor analysis, and the extracted P-O and P-J fit factors, are presented in Table 4 below.

⁹ While a common approach is to simply retain factors with eigenvalues > 1, some researchers find this approach to be arbitrary and inaccurate (see, e.g., Costello & Osborne, 2005). Consequently, the decision about the number of factors to retain was made using multiple criteria.

Calculating fit with Michigan-Indiana Early Career Teacher Study Items.

To calculate fit using data from the MIECT study, the process largely mirrored the steps taken with the SASS data, with the addition of the construction of an objective fit measure combining early career teacher and colleague data.

Single-item approach. I began by looking at each of the individual survey items thought to represent P-O and P-G fit, respectively. The frequencies for individual items are reported in Table 5. Further, the means for each item, plus the correlations between items, are reported in Table 6 below.

Composite variable approach. My first approach to combining multiple items into P-O and P-G fit measures was to compute the correlation alphas between the items for each hypothesized scale, then generating a composite measure of each type of fit. The fit scales, their alphas, means, and standard deviations are presented in Table 7.

Factor analysis approach. Following the same approach outlined for the use of exploratory factor analysis with SASS variables, I used data from both the spring survey and the mobility surveys in an attempt to identify P-O and P-G factors, presented in Table 8.

Using only spring survey data, I created two similar, but distinct, P-G fit factors. The first P-G fit factor was created using only variables from the early career teachers' spring surveys. The second P-G fit factor was created using these same variables, but also brought in two additional items from the follow-up mobility survey, thus slightly decreasing the sample size for which this measure is available.

Congruence approach. By collecting data on perceptions of both early career teachers and their colleagues, we were able to measure the congruence between early career teachers' approach to teaching and the orientations of their colleagues, allowing the calculation of an

objective P-G fit measure. To create this measure, I started with the composite variables described above. Then, I calculated the D-statistic (Cronbach & Gleser, 1953; Vancouver & Schmitt, 1991) in an effort to determine how similar each early career teacher's type was to the teacher type ratings of their close colleagues (Bidwell, Frank, & Quinoz, 1997), using the following formula offered by Cronbach and Glesser (1953):

$$D = \sqrt{\sum_{j=1}^4 (\bar{X}_{aj} - \bar{X}_{bj})^2}$$

where a is the early career teacher and b is their group of colleagues, j represents each of the distinct teacher types (progressivist, moral agent, pal, and rigorist), and $\bar{X}$ represents the mean on the composite scale for each of the four teacher types.

I repeated this approach to consider the congruence between the predominant instructional strategies used in Mathematics and English/Language Arts, respectively, by early career teachers, and the instructional strategies used most frequently by their colleagues.

Results:

Measures calculated from the Schools and Staffing Survey

Individual survey items. The large majority of teachers (88 percent) agreed or strongly agreed that their colleagues shared their beliefs and values about the mission of the school. This suggested that, using a one-item measure of P-O fit, teachers tended to express fairly high levels of fit with the organization. Further, teachers tended to report fairly high levels of satisfaction with their organization, and believed that in general, other teachers at their school were also satisfied. Feelings about administrative support also suggested that teachers were satisfied with their relationship with school leaders; 77 percent of teachers agreed or strongly agreed with this statement. Finally, most teachers responded negatively when asked if they considered

transferring to another school (76 percent disagreed or strongly disagreed) or if they believed that the stress and disappointments at their school weren't "worth it" (89 percent disagreed or strongly disagreed). Not surprisingly, these two items were negatively correlated with items related to satisfaction and shared values, but positively correlated with each other.

Most teachers also indicated a commitment to the teaching profession, which may signal P-J fit. The majority of teachers (68 percent) indicated that they would become a teacher again if given the choice, while just 7 percent strongly agreed they would leave teaching for a higher paying job. Further, only 3 percent strongly agreed that it was a waste of time to try to do his or her best as a teacher. Results related to the disruptiveness of some common challenges faced by teachers- paperwork, student misbehavior, and tardiness- were more mixed. The majority of teachers (71 percent) agreed or strongly agreed that paperwork and routine duties interfered with their teaching, while approximately 40 percent of teachers indicated that student misbehavior and tardiness interfered with their teaching. Looking at these items on their own, without considering other school factors, it was somewhat difficult to determine if teachers themselves were ill-equipped to handle what many would consider normal events in a teacher's day, or if some unusual facet of an individual school presented particular challenges that were unrelated to a teacher's fit with the requirements of the job. The moderate, positive correlation between misbehavior and tardiness ($r=0.392$, $p<0.001$) might suggest this result was a school-level, rather than a teacher fit, issue. However, it is also plausible that a teacher who was not able to handle student misbehavior also found tardiness disruptive.

Linear combination. Each of the items believed to be related to P-O fit were combined into an overall linear P-O fit measure using a simple additive method. This resulted in a new

variable with a weighted mean of 25.63 (SE=0.041), ranging from a minimum value of 11 to a maximum of 36.

Similarly, a new linear P-J fit measure was created, with a weighted mean of 16.50 (SE=0.039), and ranging from a minimum value of 7 to a maximum of 29.

Factor analysis. Results of the factor analysis are reported in Table 4. The items hypothesized to be related to P-O fit grouped into an overall P-O fit factor, with two exceptions. Despite being theoretically plausible, the item “I am satisfied with my class size” did not load onto the P-O fit factor above 0.30. After several runs, the item was removed from the analysis, and is thus not reflected in the rotated factor loadings presented in Table 4. More surprisingly, the item “The stress and disappointments involved in teaching at this school aren't really worth it” actually loaded onto the *P-J* fit factor, not the P-O fit factor, so this item was also excluded from the P-O fit factor.

In addition to the surprising loading of the “stress and disappointment” item, the P-J fit factor did not include all of the items that were hypothesized to be related to this type of fit. Much like the “class size” item, the item “Routine duties and paperwork interfere with my teaching” did not load onto the P-J fit factor above the 0.30 level. Consequently, the item was dropped, and is not included in the rotated factor loadings reported in Table 4.

Perhaps more interestingly, the items related to disruptions from student tardiness and misbehavior did not load onto the P-J fit factor at all, instead seeming to hang together as their own factor related to student disruptions. The eigenvalue for this Student Disruption Factor was below 1.00 (eigenvalue=0.554), and the scree plot suggested just two factors, so at this point, this factor is not included in any additional analysis. However, it does seem theoretically plausible

that a factor related to student disruption might stand on its own, so future research might incorporate this measure.

Overall, the results suggested two distinct factors, with a third marginal factor that was considered but, ultimately, rejected. The first factor was a P-O Fit Factor in which seven of the 14 items loaded at 0.40 or higher, accounting for about 74% of the variance in the underlying correlations, with an eigenvalue of 4.52. In addition to the P-O Fit Factor, a P-J Fit Factor was identified, in which five of 14 items loaded at about 0.40 or higher (explaining about 17% of the variance), with an eigenvalue of 1.01.¹⁰ The third potential factor, emerging from just two items, had an eigenvalue of 0.55, and thus was dropped.

After settling on a two-factor solution, factor scores were predicted using a least squares regression approach, which should lead to maximal validity (DiStefano, Zhu, & Mindrila, 2009). This resulted in a P-O Fit Factor score with a weighted mean of 0.025 (SE=0.013) and a range of -3.461 to 1.521 and a P-J Fit Factor score with a weighted mean of -0.051 (SE=0.011) and a range of -1.405 to 3.347.

Results:

Measures calculated from the Michigan Indiana Early Career Teacher Study

Individual survey items. Looking at individual survey items on their own, there was evidence that teachers experience high levels of fit with their work environment. In terms of P-O fit, I found evidence that there was congruence between teacher and organizational values. As seen in Table 5, more than 80 percent of teachers agreed or strongly agreed that they were a good “match” for their school, and that their personal goals and values matched the organization’s goals and values. In terms of P-G fit, almost 95 percent of teachers agreed or strongly agreed that

¹⁰ Two of 14 items loaded at 0.60 or higher (about 9% of the variance) onto a Student Disruption Factor, with an eigenvalue of 0.55. However, given that this factor was comprised of just two items, and that it was outside the theoretical scope of the project, this factor was not retained.

their approach to teaching and professional interests matched up with their close colleagues. A slightly smaller majority (77 percent) reported that they were “similar to their coworkers.”

Composite variables. In an effort to reduce the series of individual survey items into the P-O and P-G fit measures, I created simple composite variables by calculating the correlation alpha (α) between the items, and then averaging across them to create each fit measure. A composite P-O fit measure ($\alpha=0.89$) was created using the series of survey items presented in the top panel of Table 6 (mean=2.98; SD=0.56). I used the same strategy to create a composite P-G fit measure ($\alpha=0.89$) from the series of survey items in the bottom panel of Table 6 (mean=3.27; SD=0.50).¹¹

Factor analysis. Using the factor analysis strategy outlined above, I isolated two fit factors, presented in Table 8. The six P-O fit items loaded at 0.60 or higher, with an eigenvalue of 3.593. Of the eight P-G fit items, six loaded at 0.30 or higher. While I had originally intended to create factors that included items that loaded at 0.30 or higher, initial analysis suggested that two of the eight items loaded at just under 0.30; 0.296 and 0.251, respectively. Because these loadings were so close to the stated cut-off, and the items were theoretically plausible for this factor, I choose to retain them, resulting in a P-G fit factor with an eigenvalue of 3.536.

After generating this two-factor solution, factor scores were again predicted using a least squares regression approach. The P-O Fit Factor score had a mean of 0.000 (SD=0.971) and a range of -3.614 to 1.719, and the P-G Fit Factor score had a mean of 0.000 (SD=0.947) with a range of -4.026 to 1.074.

¹¹ I also created an alternative composite measure, which did not include the two items from the teacher mobility survey (“My coworkers are similar to me; I like the people I work with”). Without these items, the reliability coefficient was much smaller ($\alpha=0.77$), so from that point forward, I made the decision to include those two items in all subsequent measures of P-G fit.

Congruence. Up to this point, all of the fit measures have been *subjective* measures, incorporating only the perceptions of the survey respondents themselves, without pulling in alternative perspectives from other organizational members. Because of the nature of the MIECT study, it was possible to create *objective* fit measures by calculating the congruence between early career teachers and their group of close colleagues. Two separate objective P-G fit measures were created.

First, I looked at the congruence between early career teachers' "teacher type" and the "teacher type" most commonly represented in the group of close colleagues identified by the early career teachers. The "teacher type" measures might be considered a form of values congruence for the group. By answering the series of survey items reported in Appendix B, teachers revealed the type of relationship with students they value most; by comparing these measures, we learned whether or not a group of colleagues valued relating to students in a similar way. As such, I argue that this objective fit measure represented values congruence between early career teacher and their group of close colleagues.

To create this first objective fit measure, I began by categorizing the early career teachers into one of four "teacher types" outlined by Bidwell, Frank, & Quinoz (1997): progressivist, moral agent, pal, and rigorist. To create these teacher type scales, I calculated the correlation alpha between the items, and then took the mean value across these items. This resulted in a "progressivist scale" ($\alpha=0.79$) a "moral agent scale" ($\alpha=0.62$), a "pal scale" ($\alpha=0.72$), and a "rigorist scale" ($\alpha=0.74$). I then created these teacher type scale scores for each of their close colleagues.¹² Next, I collapsed the individual colleague scale scores into a group mean measure

¹² It is interesting to note in Table 7 that, while the means are slightly higher, the correlation alphas for the "moral agent" and "rigorist" scales were much lower for the ECTs than for the colleagues; the scales don't seem to measure teacher type as well for ECTs as they do for

that was associated with each early career teacher. The early career teacher means are compared to the colleague group means in Table 7. Finally, I calculated the D-statistic (Cronbach & Gleser, 1953) to determine the congruence between early career teachers' teacher type and the type most frequently represented in their group of close colleagues. This resulted in an objective P-G fit measure with a mean of 1.334 (SD=0.596). For ease of interpretation, I standardized this P-G fit measure to have a mean of 0 and a standard deviation of 1.

Second, I looked at the congruence between early career teachers and their close colleagues in terms of the predominant instructional strategies used in the teaching of English/Language Arts and Mathematics. The specific instructional strategies are reflected in Appendix B, and categorized as representative of a "basic skills," "lower order comprehension," or "higher order comprehension" orientation. The strategies most commonly used by teachers might be representative of their goals for education; by choosing to emphasize a particular set of strategies over other alternatives, teachers are implicitly prioritizing one set of educational goals while de-prioritizing another. As such, this objective fit measure might represent goals congruence between early career teacher and their group of close colleagues.

These survey items, which asked about the frequency of use of a variety of specific instructional practices, were on a 6-point scale (0="Never;" 1= "Less than once a month;" 2= "1-3 times a month;" 3= "1-2 times per week;" 4= "3-4 times per week;" 5= "Every day"). Following Pogodzinski (2009), I computed the correlation alpha between the items in each of the

colleagues. Perhaps this suggests that it is difficult to categorize a teacher into one of these "teacher types" early in their career. This is plausible because early career teachers are likely "trying out" different approaches to teaching, and, based on theories of fit, are likely looking for organizational and collegial cues as to what type of approach fits at that school, before settling in to a consistent approach.

three instructional orientation categories,¹³ and then calculated composite variables representing the mean value for each ECT and their colleagues across the three orientations. For each teacher (both ECTs and colleagues), I then determined which instructional orientation was more prevalent than the others by designating the highest mean value as that teacher's predominant instructional orientation. Every ECT was assigned an instructional orientation in this way. In addition, I looked across the instructional orientations of the group of close colleagues, and similarly selected the highest mean value across all group members to represent the predominant instructional orientation used by group members.¹⁴ Finally, I created a simple dummy variable coded "1" when the ECT's instructional orientation matched the predominant orientation of the group of close colleagues, and "0" when it did not match; this new variable represented the second objective P-G fit measure calculated in this analysis.

I repeated this process separately for English/Language Arts and Mathematics instructional orientations. I doing so, I found that 38.65 percent of early career teachers shared the same English/Language Arts instructional orientation as the majority of their group of close colleagues; 44.68 percent shared the Mathematics instructional orientation of their colleagues; and 19.86 percent shared both the English/Language Arts and Mathematics instructional orientation of their group of close colleagues.

Application:

Selecting fit measures to use in retention analysis

The purpose of creating so many alternative measures was to compare them as measures that might be used for predicting teacher labor market outcomes, such as retention, in future

¹³ While the survey items differed somewhat for Elementary and Middle School teachers, after creating the scales separately, the process for assigning teachers to one of the three instructional orientations was the same.

¹⁴ In cases where the group means in multiple categories were identical, I randomly selected one instructional orientation to represent the group.

studies. As such, looking at the measures and their properties in isolation was not particularly interesting. What was more interesting was a comparison of the utility of each of the measures as predictors in models of teacher retention. To illustrate this process, I present an example from the MIECT study.¹⁵

In the preceding pages, I laid out a variety of options for assessing fit, ranging from a series of individual survey items, to composite variables, to factor scores, to objective measures representing the congruence between two separate groups of survey respondents. To look at how these measures compared to each other, I used these alternatives as predictors in simple logistic regression equations, with a dichotomous teacher mobility variable as the outcome.¹⁶ Teacher mobility was coded “1” for teachers who switched schools or left the profession, and “0” for teachers who remained in the classroom. As predictors, I included the following newly generated fit measures: the individual survey items associated with P-O fit; the individual survey items associated with P-G fit; the P-O fit composite score; the P-G fit factor score; the objective P-G fit measure based on congruence of teacher type; the objective P-G fit measure based on congruence of instructional orientation in English/Language Arts; and the objective P-G fit measure based on congruence of instructional orientation in Mathematics. After running this series of separate regression models, I assessed various model fit statistics, such as the -2 log likelihood value and the Akaike Information Criterion, to determine which of these alternative fit

¹⁵ Note that Chapter 3 of this dissertation is a full exploration of how various fit measures predict early career teacher labor market activities, while controlling for a variety of teacher and school characteristics. The “Application” section of this chapter is offered as an illustration of the utility of using different measures for a purpose such as predicting retention. Further, it is designed to show how the different measures compare to each other, analysis which is not included in Chapter 3.

¹⁶ In this series of models, I used the various fit measures as predictors, with controls for teacher characteristics (race, gender, union membership, master’s degree, years of experience, and commitment). I also adjusted standard errors to account for the clustering of teachers within schools. For ease of presentation, I do not present the coefficients for the teacher control variables in Table 10, but they are available upon request.

measures were the best predictors of retention when the series of nested models was compared (Menard, 2002).

The results of this analysis are presented in Table 9. As seen in this table, while the various measures of fit were constructed based on measures used in prior research relating fit to positive employment outcomes, they had only limited predictive power with the current dataset. Notably, only three of seven models (2, 4, and 6) contained significant predictors of teacher mobility after controlling for teacher characteristics. Model (2) was rejected, since including so many single items, which on balance did not seem to help predict the outcome, seemed to be the least parsimonious solution. Further, model (4), featured the P-G fit factor, which incorporated the single items into one variable, itself a significant predictor of switching schools or leaving teaching.¹⁷ This suggested that the large number of single items was not necessary in the presence of a more parsimonious solution.

Model (6), which also contained a significant predictor of teacher mobility, featured the objective P-G fit factor representing ELA instructional congruence. Compared to those early career teachers who did not have the same ELA instructional orientation as their group of close colleagues, those who did were approximately 53 percent less likely to move or leave.

While it was fairly clear that only two of the newly created fit measures significantly predicted retention, looking at the model fit statistics somewhat muddled the waters in terms of making comparisons between these measures. Using the decision criteria that larger -2 log likelihood or AIC values represented worse prediction of the outcome when comparing nested models (Menard, 2002), choosing the fit measure used in Model (4) appeared justified. While its -2 log likelihood value of -49.060 was not quite the smallest across all models, it was very close,

¹⁷ For every 1 standard deviation increase in P-G fit, teachers were approximately 35 percent less likely to move or leave.

and its AIC value of 118.120 was the smallest of all models. However, Model (6), which also contained a fit measure that was a significant predictor of retention, essentially had the *highest* -2 log likelihood and AIC values, which raised questions about how well it predicted retention when compared to these other models.

Based on these findings, I concluded that, of the various alternative methods for measuring fit with the MIECT data, the subjective P-G fit factor score and the objective measure of P-G fit around ELA instruction performed the best in exploratory analysis.

Discussion

A scan of prior research suggested that developing fit measures is hardly a straightforward process. While this existing research was a useful starting point for constructing surveys designed to provide the data necessary for calculation of fit measures, the researcher is still left with many decisions to make: Who should be surveyed (individual employees only or multiple organization members)? What type of fit should be the focus (organization, job, or group; subjective or objective)? How should survey items be reduced into meaningful measures of fit (linear combinations, averages, factors, or congruence measures) used to predict desirable employment outcomes?

The purpose of Chapter 1 was to apply lessons from the fit literature- primarily situated in the domain of personnel or industrial organizational psychologists- to educational research. In doing so, I answered each of the questions posed above. I selected two distinct datasets that included teacher perceptions of their work environment, as well as information about their retention in their original schools. The first dataset, the Schools and Staffing Survey, included data from the same group of teachers surveyed over a two-year period; the surveys included questions regarding fitting in with the organization and being a good match for the requirements

of the teaching job. As such, the dataset offered the opportunity to explore subjective measures of both person-organization and person-job fit.

The second dataset, the Michigan Indiana Early Career Teacher study, included data from surveys of both early career teachers as well as their group of close colleagues over a three-year period. The instruments developed for the MIECT study directly asked early career teachers about how well their goals and values matched up with their organization, as well as how well they fit in with their close colleagues. This provided the opportunity to calculate subjective measures of both person-organization and person-group fit. In addition, the surveys asked both early career teachers and their colleagues a variety of questions associated with the frequency of use of instructional strategies in English/Language Arts and Mathematics, as well as a series of questions that grouped teachers into particular “teacher type” categories. Because multiple survey respondents provided responses to these questions, it was possible to create objective measures of group fit, by calculating the congruence between early career teachers’ responses and the responses of their close colleagues.

The results of this Chapter 1 analysis provided evidence that survey items used in studies of fit across a variety of professions could be used to create meaningful measures of fit specifically for teachers. For example, items such as “Most of my colleagues share my beliefs and values about what the central mission of the organization should be;” “I am a good match for this organization,” or “My professional goals are the same as those of my colleagues” were successfully incorporated into this analysis to measure teacher fit. Given the well-documented relationship between high levels of fit and increased retention (Kristof-Brown et al., 2005), this suggested a promising option for future research designed to identify teachers at risk for turnover.

To assess the utility of these measures for future analysis, an exploratory analysis was undertaken using the MIECT data. A series of “nested” models was generated, each incorporating one of the fit alternatives as a predictor of teacher turnover, while controlling for various teacher characteristics. The ultimate decision about which fit measures might be used in future research required an evaluation of both theory and the model fit statistics obtained in this application exercise. Taking all of the information from the analysis into account- both the presence of significant predictors and the model fit statistics- two measures rose to the top. Both the subjective P-G fit factor, as well as the objective measure of P-G fit representing congruence of ELA instructional type appeared to be promising measures of teacher fit.

However, in addition to these results, previous research also had to be taken into account. Even though the model fit statistics did not demonstrate that the subjective P-O fit factor was a good predictor of teacher turnover compared to these other measures, there is certainly conceptual support to recommend it as a measure to be used in future research. Existing research demonstrates that individual survey items very similar to those used to create this factor are components of P-O fit, including items such as “My values match or fit the values of this organization” (Lauver & Kristof-Brown, 2001, p. 460); “When someone criticizes this organization, it feels like a personal insult” (Mael & Ashforth, 1995, p. 316); and “The organization is a good match for me” (Saks & Ashforth, p. 406). As such, despite disappointing findings in the exploratory analysis, there is still reason to believe in the utility of this particular subjective P-O fit measure.

Further, existing research suggests that, where possible, incorporating measures of different types of fit into the same analysis could be valuable. It follows that even though this exploratory analysis did not necessarily identify P-O fit as a strong predictor of teacher retention,

there are good reasons for including the measure in future analysis anyway, particularly in conjunction with measures of P-G or P-J fit. Kristof-Brown et al. (2002) empirically demonstrate that employees experience significant and independent effects of P-O, P-J, and P-G fit simultaneously. Tak (2011) similarly points out that employees experience multiple types of fit simultaneously in the course of their work experience, so it makes sense to look at the effect of one type of fit controlling for the other when possible.

Next Steps

Several alternative measures of fit from two unique datasets were generated in Chapter 1. The creation of these measures sets the stage for additional analysis of the relationship between fit and teacher retention, which is the substance of the remaining two chapters in this dissertation. Using a large, nationally representative dataset, I generated subjective P-O and P-J fit factor scores, which will be used in Chapter 2 to predict the likelihood that teachers of varying experiences levels remaining in their original school, switch to a new school, or leave the profession all together. Using a longitudinal dataset from two states containing early career teachers and their group of close colleagues, I generated subjective P-O and P-G fit factor scores and an objective P-G measure capturing the congruence of instructional strategies, which will be used in Chapter 3 in an effort to predict retention for these new teachers.

Appendix

Appendix A

Table 1

Type of Fit Measured with the Schools and Staffing Survey and Michigan Indiana Early Career Teacher Study

Schools and Staffing Survey (SASS)			
Type of fit	Measurement approach	Measure	Components
P-O	Subjective	Individual survey items	• Most of my colleagues share my beliefs and values about what the central mission of the school should be • I am generally satisfied with being a teacher at this school • The stress and disappointments involved in teaching at this school aren't really worth it (<i>reverse coded</i>) • The teachers at this school like being here; I would describe us as a satisfied group • I like the way things are run at this school • I think about transferring to another school (<i>reverse coded</i>) • The school administration's behavior toward the staff is supportive and encouraging • In this school, staff members are recognized for a job well done
	Subjective	Linear combination	Same as above
	Subjective	Factor score*	Same as above

Table 1 (cont'd)

P-J	Subjective	Individual survey items	• If I could get a higher paying job I'd leave teaching as soon as possible (<i>reverse coded</i>) • I don't seem to have as much enthusiasm as I did when I began teaching (<i>reverse coded</i>) • I sometimes feel it is a waste of time to try to do my best as a teacher (<i>reverse coded</i>) • The stress and disappointments involved in teaching at this school aren't really worth it (<i>reverse coded</i>) • Routine duties and paperwork interfere with my job of teaching (<i>reverse coded</i>) • The level of student misbehavior in this school interferes with my teaching • The amount of student tardiness and class cutting in this school interferes with my teaching
	Subjective	Linear combination	Same as above
		Factor score*	• If I could get a higher paying job I'd leave teaching as soon as possible (<i>reverse coded</i>) • I don't seem to have as much enthusiasm as I did when I began teaching (<i>reverse coded</i>) • I sometimes feel it is a waste of time to try to do my best as a teacher (<i>reverse coded</i>) • The stress and disappointments involved in teaching at this school aren't really worth it (<i>reverse coded</i>) • Routine duties and paperwork interfere with my job of teaching (<i>reverse coded</i>)

Table 1 (cont'd)

Michigan Indiana Early Career Teacher Study (MIECT)			
Type of fit	Measurement approach	Measure	Components
P-O	Subjective	Individual survey items	• My personal values match my organization's values and culture • When someone criticizes this organization, it feels like a personal insult • This organization's successes are my successes • I am a good match for this organization • I can reach my professional goals working for this organization • I like the responsibility and authority I have in this organization
	Subjective	Composite (mean value)	Same as above
	Subjective	Factor score*	Same as above
P-G	Subjective	Individual survey items	• My approach to teaching fits in with that of my teaching colleagues • My professional interests are the same as those my teaching colleagues • I identify with my teaching colleagues • My professional goals are the same as those of my teaching colleagues • I matter to my teaching colleagues • My teaching colleagues matter to me • My coworkers are similar to me • I like the people I work with
	Subjective	Composite (mean value)	Same as above
	Subjective	Factor score*	Same as above

Table 1 (cont'd)

Objective	Congruence of teacher type for ECT and colleagues (D-statistic)	Teacher type: Progressivist; Moral Agent; Pal; Rigorist (see Appendix B, Table 10 for more details on the teacher types)
Objective	Congruence of ELA instructional orientation for ECT and colleagues (D-statistic) *	English/Language Arts instructional orientation: Basic skills; Lower order comprehension; Higher order comprehension (See Appendix B, Table 11 for more details)
Objective	Congruence of Math instructional orientation for ECT and colleagues (D-statistic)	Mathematics instructional orientation: Basic skills; Lower order comprehension; Higher order comprehension (See Appendix B, Table 12 for more details)

* Indicates measure that is used in Chapter 2 or 3 analysis

Table 2

Possible Components of P-O and P-J Fit Measures in the Schools and Staffing Survey, with Weighted Percent of Teachers Selecting Each Response Option

	Strongly disagree	Disagree	Agree	Strongly agree
Proposed Person-Organization Fit Items				
Most of my colleagues share my beliefs and values about what the central mission of the school should be	0.02	0.09	0.49	0.39
I am generally satisfied with being a teacher at this school	0.03	0.06	0.31	0.60
I am satisfied with my class size	0.13	0.17	0.36	0.34
The stress and disappointments involved in teaching at this school aren't really worth it	0.42	0.47	0.09	0.03
The teachers at this school like being here; I would describe us as a satisfied group	0.03	0.15	0.54	0.28
I like the way things are run at this school	0.05	0.18	0.53	0.24
I think about transferring to another school	0.41	0.35	0.19	0.05
The school administration's behavior toward the staff is supportive and encouraging	0.05	0.10	0.33	0.53
In this school, staff members are recognized for a job well done	0.06	0.18	0.43	0.33
Proposed Person-Job Fit Items				
If I could get a higher paying job I'd leave teaching as soon as possible	0.31	0.49	0.13	0.07
I don't seem to have as much enthusiasm now as I did when I began teaching	0.31	0.38	0.22	0.09
I sometimes feel it is a waste of time to try to do my best as a teacher	0.68	0.16	0.13	0.03
Routine duties and paperwork interfere with my teaching	0.10	0.20	0.43	0.28
The level of student misbehavior in this school interferes with my teaching	0.37	0.26	0.27	0.10
The amount of student tardiness and class cutting in this school interferes with my teaching	0.41	0.26	0.24	0.09
If you could go back to your college days and start over again, would you become a teacher or not?	0.04	0.11	0.26	0.42
Number of observations	33,695			

Source: Schools and Staffing Survey 2003-2004 Public School Teacher Survey

Note. Percents may not add to 100 due to rounding

Table 3

Means of and Correlations Between Possible Components of P-O and P-J Fit Measures in the Schools and Staffing Survey

	Mean ^a (SE)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Person-Organization Fit									
(1) Most of my colleagues share my beliefs and values about what the central mission of the school should be	3.253 (0.008)	1.000							
(2) I am generally satisfied with being a teacher at this school	3.480 (0.009)	0.272**	1.000						
(3) I am satisfied with my class size	2.903 (0.012)	0.131**	0.200	1.000					
(4) The stress and disappointments involved in teaching at this school aren't really worth it	1.729 (0.008)	-0.203**	-0.482**	-0.177**	1.000				
(5) The teachers at this school like being here; I would describe us as a satisfied group	3.055 (0.010)	0.342**	0.454**	0.158**	-0.445**	1.000			
(6) I like the way things are run at this school	2.960 (0.010)	0.322**	0.483**	0.171**	-0.430**	0.656**	1.000		
(7) I think about transferring to another school	1.893 (0.011)	-0.221**	-0.439**	-0.141**	0.434**	-0.397**	-0.043**	1.000	

Table 3 (cont'd)

(8) The school administration's behavior toward the staff is supportive and encouraging	3.338 (0.010)	0.265**	0.399**	0.127**	-0.311**	0.395**	0.552**	-0.317**	1.000
(9) In this school, staff members are recognized for a job well done	3.019 (0.010)	0.357**	0.391**	0.139**	-0.304**	0.423**	0.520**	-0.315**	0.554**
Person-Job Fit									
(1) If I could get a higher paying job I'd leave teaching as soon as possible	1.967 (0.009)	1.000							
(2) I don't seem to have as much enthusiasm now as I did when I began teaching	2.090 (0.010)	0.455**	1.000						
(3) I sometimes feel it is a waste of time to try to do my best as a teacher	1.522 (0.009)	0.315**	0.413**	1.000					
(4) Routine duties and paperwork interfere with my teaching	2.886 (0.010)	0.181**	0.231**	0.192**	1.000				
(5) The level of student misbehavior in this school interferes with my teaching	2.100 (0.013)	0.186**	0.241**	0.274**	0.197**	1.000			

Table 3 (cont'd)

(6) The amount of student tardiness and class cutting in this school interferes with my teaching	2.005 (0.013)	0.142**	0.156**	0.256**	0.160**	0.392**		
(7) If you could go back to your college days and start over again, would you become a teacher or not?	3.92 (0.012)	-0.508**	-0.415**	-0.294**	-0.160**	-0.149**	-0.106**	1.000

Source: Schools and Staffing Survey 2003-2004 Public School Teacher Survey
n=33,695; ** p<0.001

a Weighted means calculated using svy command to obtain population estimate

Table 4

Loadings for Schools and Staffing Survey Fit Items Using Maximum Likelihood Factor Analysis with Promax Rotation

	Factor		
	1	2	3
Proposed Person-Organization Fit Items			
Most of my colleagues share my beliefs and values about what the central mission of the school should be.	0.410		
I am generally satisfied with being a teacher at this school.	0.401		
The stress and disappointments involved in teaching at this school aren't really worth it.		0.470	
The teachers at this school like being here; I would describe us as a satisfied group.	0.657		
I like the way things are run at this school.	0.832		
I think about transferring to another school.	-0.321		
The school administration's behavior toward the staff is supportive and encouraging.	0.744		
In this school, staff members are recognized for a job well done.	0.715		
Proposed Person-Job Fit Items			
If I could get a higher paying job I'd leave teaching as soon as possible.		0.792	
I don't seem to have as much enthusiasm now as I did when I began teaching.		0.636	
I sometimes feel it is a waste of time to try to do my best as a teacher.		0.387	
The level of student misbehavior in this school interferes with my teaching.			0.627
The amount of student tardiness and class cutting in this school interferes with my teaching.			0.632
If you could go back to your college days and start over again, would you become a teacher or not?		-0.714	
Eigenvalue	4.524	1.008	0.554
Variance Explained	0.743	0.166	0.091
Correlations among factors			
Factor 1: P-O Fit	1.000		
Factor 2: P-J Fit	-0.534	1.000	
Factor 3: Student Disruption	-0.521	0.491	1.000

Source: Schools and Staffing Survey 2003-2004 Public School Teacher Survey

Table 4 (cont'd)

Note. Only loadings >0.30 are reported. Although two items related to student misbehavior seemed to group into their own unique factor, at this point, Factor 3 is not used in subsequent regressions, keeping the focus on the P-O and P-J fit factors. Future work will also incorporate the effects of Factor 3.

Table 5

Possible Components of P-O and P-G fit measures in the Michigan Indiana Early Career Teacher Study, with Percent of Teachers Selecting Each Response Option

	Strongly disagree	Disagree	Agree	Strongly agree
Proposed Person-Organization Fit Items				
My personal values match my organization's values and culture	0.03	0.15	0.69	0.13
When someone criticizes this organization, it feels like a personal insult	0.05	0.24	0.54	0.17
This organization's successes are my successes	0.02	0.15	0.62	0.21
I am a good match for this organization	0.03	0.08	0.59	0.29
I can reach my professional goals working for this organization	0.03	0.15	0.60	0.22
I like the responsibility and authority I have in this organization	0.04	0.16	0.61	0.19
Proposed Person-Group Fit Items				
My approach to teaching fits in with that of my teaching colleagues	0.00	0.05	0.48	0.47
My professional interests are the same as those my teaching colleagues	0.00	0.06	0.55	0.38
I identify with my teaching colleagues	0.00	0.04	0.44	0.51
My professional goals are the same as those of my teaching colleagues	0.01	0.11	0.56	0.32
I matter to my teaching colleagues	0.00	0.02	0.35	0.62
My teaching colleagues matter to me	0.00	0.01	0.28	0.71
My coworkers are similar to me	0.04	0.19	0.60	0.17
I like the people I work with	0.03	0.09	0.56	0.32
Number of observations		194		

Source: MIECT Spring 2009 Teacher Surveys and Spring 2010 Teacher Mobility Surveys

Table 6

Means of and Correlations Between Possible Components of P-O and P-G Fit Measures in the Michigan Indiana Early Career Teacher Study

	Mean (SD)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Person-Organization Fit									
(1) My personal values match my organization's values and culture	2.91 (0.63)	1.000							
(2) When someone criticizes this organization, it feels like a personal insult	2.82 (0.77)	0.458**	1.000						
(3) This organization's successes are my successes	3.02 (0.66)	0.509**	0.645**	1.000					
(4) I am a good match for this organization	3.15 (0.69)	0.596**	0.507**	0.626**	1.000				
(5) I can reach my professional goals working for this organization	3.02 (0.69)	0.580**	0.510**	0.652**	0.728**	1.000			
(6) My personal values match my organization's values and culture	2.95 (0.70)	0.525**	0.453**	0.612**	0.707**	0.787**	1.000		
Person-Group Fit									
(1) My approach to teaching fits in with that of my teaching colleagues	3.42 (0.59)	1.000							

Table 6 (cont'd)

(2) My professional interests are the same as those my teaching colleagues	3.31 (0.60)	0.616**	1.000						
(3) I identify with my teaching colleagues	3.46 (0.60)	0.725**	0.592**	1.000					
(4) My professional goals are the same as those of my teaching colleagues	3.19 (0.65)	0.486**	0.665**	0.597**	1.000				
(5) I matter to my teaching colleagues	3.59 (0.56)	0.574**	0.458**	0.635**	0.483**	1.000			
(6) My teaching colleagues matter to me	3.70 (0.48)	0.560**	0.478**	0.580**	0.480**	0.801**	1.000		
(7) My coworkers are similar to me	2.90 (0.72)	0.100	0.186**	0.183**	0.209**	0.196**	0.122	1.000	
(8) I like the people I work with	3.18 (0.70)	0.154*	0.118	0.208**	0.135	0.267**	0.239**	0.696**	1.00

Source: MIECT Spring 2009 Teacher Surveys and Spring 2010 Teacher Mobility Surveys

*p<0.05; ** p<0.01

Table 7

Teacher Type Scale Means for Early Career Teachers and Their Group of Close Colleagues

	Early career teachers		Group of close colleagues	
	Mean (SD)	α	Mean (SD)	α
Teacher type: Progressivist	3.48 (0.42)	0.791	3.56 (0.19)	0.757
Teacher type: Moral agent	3.74 (0.26)	0.556	3.63 (0.17)	0.711
Teacher type: Pal	3.40 (0.47)	0.713	3.37 (0.35)	0.754
Teacher type: Rigorist	2.34 (0.92)	0.579	1.91 (0.63)	0.771

Source: MIECT 2009 Spring Teacher Surveys

Table 8

Loadings for Fit Items in the Michigan Indiana Early Career Teacher Study Using Maximum Likelihood Factor Analysis with Promax Rotation

	Factor	
	1	2
Proposed Person-Organization Fit Items		
My personal values match my organization's values and culture	0.667	
When someone criticizes this organization, it feels like a personal insult	0.617	
This organization's successes are my successes	0.758	
I am a good match for this organization	0.833	
I can reach my professional goals working for this organization	0.886	
I like the responsibility and authority I have in this organization	0.845	
Proposed Person-Group Fit Items		
My approach to teaching fits in with that of my teaching colleagues		0.741
My professional interests are the same as those my teaching colleagues		0.645
I identify with my teaching colleagues		0.817
My professional goals are the same as those of my teaching colleagues		0.667
I matter to my teaching colleagues		0.828
My teaching colleagues matter to me		0.789
My coworkers are similar to me		0.296
I like the people I work with		0.251
Eigenvalue	3.593	3.536
Correlation between factors	0.311***	

Source: MIECT Spring 2009 Teacher Surveys and Spring 2010 Teacher Mobility Surveys

Table 9

Various Measures of P-O and P-G Fit as Predictors of Teacher Mobility in the Michigan Indiana Early Career Teacher Study

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
My personal values match my organization's values and culture	1.130 (0.653)						
When someone criticizes this organization, it feels like a personal insult	1.040 (0.425)						
This organization's successes are my successes	1.046 (0.635)						
I am a good match for this organization	0.534 (0.396)						
I can reach my professional goals working for this organization	2.036 (1.613)						
My personal values match my organization's values and culture	1.557 (0.820)						
My approach to teaching fits in with that of my teaching colleagues		0.596 (0.295)					
My professional interests are the same as those my teaching colleagues		1.456 (0.969)					
I identify with my teaching colleagues		1.724 (1.377)					

Table 9 (cont'd)

My professional goals are the same as those of my teaching colleagues	1.626						
	(1.049)						
I matter to my teaching colleagues	1.669						
	(1.906)						
My teaching colleagues matter to me	0.134						
	(0.191)						
My coworkers are similar to me	0.660						
	(0.410)						
I like the people I work with	2.974*						
	(1.806)						
P-O Fit Composite Measure (z-score)		1.410					
		(0.459)					
P-G Fit Factor Score (z-score)			0.657*				
			(0.290)				
Objective P-G Fit Measure: Teacher Type					1.362		
					(0.448)		
Objective P-G Fit Measure: ELA Instruction						0.473**	
						(0.181)	
Objective P-G Fit Measure: Math Instruction							0.799
							(0.302)
Controls: Teacher characteristics	x	X	x	x	x	x	X
Constant	0.543	5.650	6.150	5.157	1.291	1.587	1.417
	(0.933)	(21.39)	(10.03)	(7.180)	(1.730)	(1.748)	(1.552)
Observations	176	160	176	160	193	241	241

Table 9 (cont'd)

Chi-square	44.23***	44.98***	38.92***	38.06***	32.85***	39.07***	31.75***
-2 log likelihood	-52.398	-45.859	-53.630	-49.060	-76.262	-101.277	-102.788
AIC	134.797	125.717	127.260	118.120	172.524	222.544	225.575

Source: MIECT Spring 2009 Teacher Surveys and Spring 2010 Teacher Mobility Surveys

Note. Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Appendix

Appendix B

Table 10

Characteristics of Four Teacher Types

Progressivist

- Instill set of common values
- Students learn more than basic facts
- Students encouraged to express themselves
- Engage students in question and answer
- Students have chance to discuss issues among selves
- Teach students how to learn
- Material chosen stimulates students to reflect on values
- Assignments require students to gather info on own
- Students given opportunity to explore subject on own

Moral agent

- Set well defined tasks
- Know what each student is doing
- Set a good example for students
- Lessons based on explicit values
- Students see them as someone to look up to
- Order and discipline come first

Pal

- Students talk about friendships
- Students talk about outside school activities
- Students see me as a friend
- I know a great deal about students' families

Rigorist

- I refuse to negotiate about homework assignments
 - Students rarely see me break a rule
 - I refuse to negotiate about grades
 - Require quiet classroom
-

Source: MIECT 2009 Spring Teacher Surveys

Table 11

English/Language Arts Instructional Strategies Grouped Into Three Instructional Orientations: Basic skills, Lower Order Comprehension, and Higher Order Comprehension

Elementary Teachers	Middle School Teachers
<u>Basic skills</u>	<u>Basic skills</u>
Word analysis (e.g., decoding, word families, sight words)	Word analysis (e.g., decoding, word families, sight words)
Grammar	Grammar
Spelling	Spelling
Using phonics based on letter-sound relationships to read words in sentences	Editing the capitalization, punctuation, or spelling of their own writing
Sound segmenting, such as writing the individual sounds students hear in words	Editing the word use, grammar, or syntax of their own writing
Sound blending	
Sight word recognition	
<u>Lower order comprehension</u>	<u>Lower order comprehension</u>
Reading fluency (e.g., repeated reading, guided oral reading)	Reading fluency (e.g., repeated reading, guided oral reading)
Listening comprehension	Listening comprehension
Reading comprehension	Reading comprehension
Written composition	Activating prior knowledge or making personal connections to text
Using context, pictures, and/or sentence meaning and structure to read words	Making predictions, previewing, or surveying text
Activating prior knowledge or making personal connections to text	Students generalizing their own questions
Making predictions, previewing, or surveying text	Summarizing important or critical details
Students generalizing their own questions	Using concept maps, story maps, or text structure frames
Summarizing important or critical details	Answering questions that have answers stated directly in the text
Using concept maps, story maps, or text structure frames	Wrote brief answers to questions
Answering questions that have answers stated directly in text	

Table 11 (cont'd)

<u>Higher order comprehension</u>	<u>Higher order comprehension</u>
Examining literary techniques	Written composition
Identifying the author's purpose	Examining literary techniques
Answering questions that require inferences	Identifying the author's purpose
	Answering questions require inferences
	Wrote extensive answers to questions
	Did a think-aloud or explained how they applied a skill or strategy
	Wrote additional or alternative endings to stories
	Revising their writing by elaborating and extending what they wrote
	Revising their writing by reorganizing or refining what they wrote

Source: MIECT Spring 2009 Teacher Surveys

Table 12

Mathematics Instructional Strategies Grouped Into Three Instructional Orientations: Basic skills, Lower Order Thinking, and Higher Order Thinking

Elementary Teachers	Middle School Teachers
<u>Basic skills</u>	<u>Basic skills</u>
Listen to me present the definition of a term or the steps of a procedure	Practicing basic facts for speed or accuracy
Perform tasks requiring methods or ideas already introduced to students	How to carry out the steps of a conventional computational procedure
Assess a problem or choose a method to use from those already introduced to students	Practicing computational procedures for speed, accuracy, or ease of use
Work on mathematics textbook, worksheet, or board work exercises for practice or review	Listen to me present the definition of a term or the steps of a procedure
	Perform tasks requiring methods or ideas already introduced to students
	Assess a problem or choose a method to use from those already introduced to students
	Work on mathematics textbook, worksheet, or board work exercises for practice or review

Table 12 (cont'd)

<u>Lower order thinking</u>	<u>Lower order thinking</u>
Discuss mathematical ideas, problems, solutions, or methods in pairs or small groups	The meaning or properties of an operation Methods or strategies for finding answers to basic facts Estimating the answer to a computation problem Applying basic facts or computation to solve word problems Organizing objects by size, number, or other properties Creating, continuing, or explaining repeating patterns or sequences (e.g., 2, 1, 2, 1, ...) Finding and explaining other patterns (e.g., patterns in a word problem, visual/geometric patterns, or patterns in a representation such as the hundreds chart) Understanding and using formulas and equations expressed in symbolic form Expressing a function or sequence as a general rule using words, tables, or formulas Discuss mathematical ideas, problems, solutions, or methods in pairs or small groups
<u>Higher order thinking</u>	<u>Higher order thinking</u>
Perform tasks requiring methods or ideas not already introduced to students Explain an answer or a solution method for a particular problem Analyze similarities and differences among representations, solutions, or methods	Why a conventional computational procedure works Developing transitional, alternative, or non-conventional methods for doing computation Perform tasks requiring methods or ideas not already introduced to students

Table 12 (cont'd)

Prove that a solution is valid or that a method works for all similar cases	Explain an answer or a solution method for a particular problem
Work on mathematics problems that have multiple answers or solution methods	Prove that a solution is valid or that a method works for all similar cases
Write extended explanations of mathematics ideas, solutions, or methods	Work on mathematics problems that have multiple answers or solution methods
Work on a mathematical investigation, problem, or project for several days	Write extended explanations of mathematics ideas, solutions, or methods
	Work on a mathematical investigation, problem, or project for several days

Source: MIECT Spring 2009 Teacher Surveys

References

References

- Adkins, C., Ravlin, E., Meglino, B. (1996). Value congruence between co-workers and its relationship to work outcomes. *Group and Organization Management*, 21(4), 439-460.
- Alutto, J., & Belasco, J. (1972). A typology for participation in organizational decision-making. *Administrative Science Quarterly*, 17(1), 117-125.
- Barnes, G., Crowe, E., & Schaefer, B. (2007). *The cost of teacher turnover in five school districts: A pilot study*. Washington, DC: National Commission on Teaching and America's Future. Retrieved February 21, 2011 from http://www.nctaf.org/resources/demonstration_projects/turnover/documents/CTTFullReportfinal.pdf
- Bidwell, C., Frank, K., & Quinoz, P. (1997). Teacher types, workplace controls, and the organization of schools. *Sociology of Education*, 70(4), 285-307.
- Cable, J., & Edwards, J. (2004). Complementary and supplementary fit: A theoretical and empirical investigation. *Journal of Applied Psychology*, 89(5), 822-834.
- Cable, D., & Judge, T. (1996). Person-organization fit, job choice decisions, and organizational entry. *Organizational Behavior and Human Decision Processes*, 67(3), 294-311.
- Cable, D., & Judge, T. (1997). Interviewers' perceptions of person-organization fit and organizational selection decisions. *Journal of Applied Psychology*, 82(4), 546-561.
- Caldwell, D. & O'Reilly, C. (1990). Measuring person-job fit with a profile-comparison process. *Journal of Applied Psychology*, 75(6), 648-657.
- Chatman, J. (1989). Improving interactional organizational research: A model of person-organization fit. *Academy of Management Review*, 14(3), 333-349.
- Costello, A. & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your data. *Practical Assessment, Research, and Evaluation*, 10(7), 1-9.
- Cronbach, L. & Gleser, G. (1953). Assessing similarity between profiles. *The Psychological Bulletin*, 50(6), 456-473.
- Dillman, D. (2007). *Mail and Internet Surveys: The Tailored Design Method, Second Edition*. Hoboken, NJ: Wiley.
- DiStefano, C., Zhu, M., & Mindrila, D. (2009). Understanding and using factor scores: Considerations for the applied researcher. *Practical Assessment, Research, and Evaluation*, 14(20), 1-11.

- Edwards, J. (1991). Person-job fit: A conceptual integration, literature review, and methodological critique. In C.L. Cooper & I.T. Robertson (Eds.). *International Review of Industrial Organizational Psychology* (Volume 6, pp. 283-357). Chichester, England: Wiley.
- Edwards, J. & Shipp, A. (2007). The relationship between person-environment fit and outcomes: An integrative theoretical framework. In C. Ostroff & T. Judge (Eds.). *Perspectives on Organizational Fit*. New York: Taylor and Francis.
- Fabrigar, L., Wegener, D., MacCallum, R., Strahan, E. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, 4(3), 272-299.
- Ferris, G., Youngblood, S., & Yates, V. (1985). Personality, training performance, and withdrawal: A test of the person-group fit hypothesis for organizational newcomers. *Journal of Vocational Behavior*, 27, 377-388.
- Good, L. & Nelson, D. (1971). Effects of person-group and intragroup attitude similarity on perceived group attractiveness and cohesiveness. *Psychonomic Science*, 25(4), 215-217.
- Hoffman, B. & Woehr, D. (2006). A quantitative review of the relationship between person-organization fit and behavioral outcomes. *Journal of Vocational Behavior*, 68(3), 389-399.
- Ingersoll, R. (2001). Teacher turnover and teacher shortages: An organizational analysis. *American Educational Research Journal*, 38(3), 499-534.
- Ingersoll, R., & Smith, T. (2003). The wrong solution to the teacher shortage. *Educational Leadership*, 60(8), 30-33.
- Judge, T. & Ferris, G. (1992). The elusive criterion of fit in human resource staffing decisions. *Human Resource Planning*, 15(4), 47-67.
- Kline, T. (1996). Defining the field of industrial organizational psychology. *Canadian Psychology*, 37(4), 205-209.
- Kristof, A. (1996). Person-organization fit: An integrative review of its conceptualizations, measurement, and implications. *Personnel Psychology*, 49(1), 1-49.
- Kristof-Brown, A. (2000). Perceived applicant fit: Distinguishing between recruiters' perceptions of person-job and person-organization fit. *Personnel Psychology*, 53(3), 643-671.
- Kristof-Brown, A., Zimmerman, R., & Johnson, E. (2005). Consequences of individuals' fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology*, 58(2), 281-342.
- Kristof-Brown, A., Jansen, K., & Colbert, E. (2002). A policy-capturing study of the

- simultaneous effects of fit with jobs, groups, and organizations. *Journal of Applied Psychology*, 87(5), 985-993.
- Lauver, K., & Kristof-Brown, A. (2001). Distinguishing between employees' perceptions of person-job and person-organization fit. *Journal of Vocational Behavior*, 59(3), 454-470.
- Lesser, V., Dillman, D., Lorenz, F.O., Carlson, J., Brown, T. (1999, August). *The influence of financial incentives on mail questionnaire response rates*. Paper presented at the Meeting of the Rural Sociological Society, Portland, Oregon.
- McCulloch, M., & Turban, D. (2007). Using person-organization fit to select employees for high-turnover jobs. *International Journal of Selection and Assessment*, 15(1), 63-71.
- Mael, F. & Ashforth, B. (1995). Loyal from day one: Biodata, organizational identification, and turnover among newcomers. *Personnel Psychology*, 48(2), 309-333.
- Menard, S. (2002). *Applied Logistic Regression Analysis: Second Edition*. Thousand Oaks, CA: Sage Publications.
- Muchinsky, P., & Monahan, C. (1987). What is person-environment congruence? Supplementary vs. complementary models of fit. *Journal of Vocational Behavior*, 31(3), 268-277.
- National Center for Education Statistics. (n.d.). *2003-2004 SASS Methods and Procedures*. Retrieved from <http://nces.ed.gov/surveys/sass/methods0304.asp#frame> on September 10, 2009.
- O'Reilly, C., Chatman, J., & Caldwell, D. (1991). People and organizational culture: A profile comparison approach to assessing organizational fit. *Academy of Management Journal*, 34(3), 487-516.
- Piasentin, K., & Chapman, D. (2006). Subjective person-organization fit: Bridging the gap between conceptualization and measurement. *Journal of Vocational Behavior*, 69(2), 202-221.
- Pogodzinski, B. (2009). Collective bargaining and human resource policies: Effects on mentoring and commitment levels of novice teachers. (Doctoral Dissertation). Retrieved from ProQuest Digital Dissertations database. (Publication No. 3381321).
- Ryan, A.M, & Schmit, M. (1996). An assessment of organizational climate and P-E fit: A tool for organizational change. *The International Journal of Organizational Analysis*, 4(1), 75-95.
- Rynes, S., & Gerhart, B. (1990). Interviewer assessments of applicant 'fit': An exploratory investigation. *Personnel Psychology*, 43(1), 13-35.
- Saks, A., & Ashforth, B. (1997). A longitudinal investigation of the relationships between job

- information sources, applicant perceptions of fit, and work outcomes. *Personnel Psychology*, 50(2), 395-426.
- Tak, J. (2011). Relationships between various person-environment fit types and employee withdrawal behaviors: A longitudinal study. *Journal of Vocational Behavior*, 78(2), 315-320.
- Texas Center for Educational Research. (2000). *The cost of teacher turnover*. Austin: Texas State Board for Educator Certification. Retrieved February 21, 2011 from: <http://www.tcer.org/research/index.aspx>.
- Tom, V. (1971). The role of personality and organizational images in the recruiting process, *Organizational Behavior and Human Performance*, 6(5), 573-592.
- Tziner, A. & Birati, A. (1996). Assessing employee turnover costs: A revised approach. *Human Resource Management Review*, 6(2), 113-122.
- Vancouver, J., & Schmitt, N. (1991). An exploratory examination of person-organization fit: Organizational goal congruence. *Personnel Psychology*, 44(2), 333-352.
- Verquer, M., Beehr, T., Wagner, S. (2003). A meta-analysis of relations between person-organization fit and work attitudes. *Journal of Vocational Behavior*, 63(3), 473-489.
- Watlington, E., Shockley, R., Guglielmino, P., & Felsher, R. (2010). The high cost of leaving: An analysis of the cost of teacher turnover. *Journal of Education Finance*, 36(1), 22-37.
- Westerman, J., & Cyr, L. (2004). An integrative analysis of person-organization fit theories. *International Journal of Selection and Assessment*, 12(3), 252-262.
- Wheeler, A., Coleman Gallagher, V., Brouer, R., & Sablinski, C. (2007). When person-organization (mis)fit and (dis)satisfaction lead to turnover: The moderating role of perceived job mobility. *Journal of Managerial Psychology*, 22(2), 203-219.

CHAPTER 2

Fit with teaching and fit with school: Evidence of the impact of a “good fit” on teacher mobility and attrition in the Schools and Staffing Survey

For years, researchers studying organizations and management have been interested in how well individuals “fit” with their work environment (Kristof-Brown, Zimmerman, & Johnson, 2005). Theories of fit have arisen from a long-established line of research in industrial organizational psychology exploring how people interact with their environments (Chatman, 1989; Kristof-Brown et al., 2005). Person-environment research, which has also been influenced by vocational choice and personality literature, eventually expanded to consider not just *interaction* between people and environments, but, explicitly, how well people *fit* or match with the expectations and affordances of their environment (Edwards & Shipp, 2007; Kristof-Brown et al., 2005; Ryan & Schmit, 1996).

This chapter employs person-environment fit as the theoretical framework to examine teachers’ fit with the teaching profession and with their schools. That is, the chapter uses a nationally representative data set, the 2003-2004 Schools and Staffing Survey (SASS) and the 2004-2005 Teacher Follow-up Survey (TFS), to focus on two specific types of fit: person-job (P-J) fit and person-organization (P-O) fit. Person-job fit has been conceptualized as either the correspondence between employee needs and job ‘supplies,’ or alternatively as a match between needs and job ‘demands’ (Edwards, 1991). When individuals have the abilities required to complete the tasks of a given job, person-job fit is said to be high (Edwards, 1991; Kristof-Brown, et al., 2002). Existing research has found that high levels of P-J fit are positively associated with organizational commitment and job-focused satisfaction, and negatively

associated with intent to quit, which is particularly relevant for studies with retention as the primary outcome (Kristof-Brown et al., 2005; Lauver & Kristof-Brown, 2001).

Notably, research has found that employees judge the *tasks* of a job as distinct from the *organization* in which the job tasks are performed (Kristof, 1996). In fact, Lauver and Kristof-Brown (2001) demonstrate that job fit and organizational fit are distinct concepts to employees, and are often uncorrelated when assessed simultaneously. In addition to using P-J fit as a predictor of retention, this study also used P-O fit. Chatman (1989), widely cited with developing the seminal theory of P-O fit (Kristof-Brown et al., 2005), conceptualized fit as congruence between the values of a person and an organization. While for Chatman (1989), fit measures primarily focused on value congruence, subsequent studies of P-O fit operationalized three additional manifestations of P-O fit: shared goals, common preferences for systems and structures, and similar preferences for work climate (Kristof, 1996). Much like P-J fit, high P-O fit has been related to reduced turnover (Kristof-Brown et al., 2005).

Recent research on teacher retention

This study seeks to understand why teachers leave the teaching profession or leave their teaching positions, but remain in teaching. There is extensive research regarding factors that play a role in this type of teacher mobility, and it tends to fall into two broad categories: research focusing on issues related to teacher labor markets, and research focusing on organizational characteristics.¹⁸

Features of the teaching position appear related to teacher retention. Multiple studies document teachers' preferences for teaching positions in schools that are physically close to their

¹⁸ There have been two recent, in-depth reviews of the literature on teacher retention. Guarino, Santibanez, and Daley (2006) conducted a very thorough literature review of close to 50 empirical studies, and Borman and Dowling (2008) conducted a meta-analysis incorporating results from more than 30 studies. As such, I provide a broad summary of findings here, but refer readers to these two comprehensive reviews for additional details.

hometowns, or at least similar to the types of schools they attended as children (Boyd et al., 2005; Cannata, 2010). Another factor commonly cited in teacher retention studies is the demographic composition of the student body. As teachers acquire additional experience, they are frequently observed to move away from urban schools serving high percentages of low-income or minority students to suburban schools serving predominantly white students (Boyd et al., 2010; Johnson & Birkeland, 2003; Guarino et al., 2006; Hanushek, Kain, & Rivkin, 2002; Smith & Ingersoll, 2004). Further, teachers are observed moving away from low-performing schools, and are more likely to stay at high performing schools. For example, when Florida introduced a new school accountability system, Feng, Figlio, and Sass (2010) found that teachers in schools whose accountability grade dropped unexpectedly were almost 11 percent more likely to change schools than teachers in schools whose accountability grade stayed the same.¹⁹

Higher salaries positively influence retention (Guarino, Santibanez, & Daley, 2006; Imazeki, 2005), particularly when teaching salaries are higher than non-teaching alternatives in the same geographic vicinity (Ondrich, Pas, & Yinger, 2008). There is some evidence that targeted financial bonuses can help keep teachers, particularly those with more experience, at low-income, low-performing schools, reversing the trend of moving away from challenging environments (Clotfelter, Glennie, Ladd, & Vigdor, 2008).

Teachers' personal characteristics are also frequently associated with turnover (Borman & Dowling, 2008; Guarino et al., 2006). The age of the teacher is frequently found to be related to turnover, such that both younger and older teachers are more likely than others to leave, producing a "U-shaped" curve (Guarino et al., 2006). Additionally, women are more likely to leave teaching than men, as are White teachers when compared to minority teachers, and married

¹⁹ This finding was exacerbated by how low-performing the school was. Teachers in schools that dropped to a grade of "F" were 42 percent more likely to leave than those in schools with higher grades.

teachers when compared to non-married teachers (Borman & Dowling, 2008; Guarino et al., 2006). Teachers with stronger credentials, such as prior test scores or attendance at more selective colleges, were also observed to leave teaching at higher rates (Guarino et al., 2006). Further, high school teachers are assumed to have more non-teaching alternative job prospects than elementary school teachers, and thus likely to be at higher risk for attrition (Theobald, 1990).

Some existing research has looked not at demographic characteristics of the school or the salary and benefits associated with the teaching position, but at organizational factors and working conditions related to retention. Ingersoll (2001), using data from the 1990-1991 Schools and Staffing Survey, found that teachers working in organizations where involvement in decision making was high were less likely to leave their schools. Boyd et al. (2010) found similar patterns when studying New York City teachers. There is also evidence that administrative support is critical in teacher retention (Borman & Dowling, 2008; Boyd et al., 2010; Ingersoll, 2001; Pogodzinski, *under review*); further, teachers appear less likely to leave schools with principals who have been judged to be highly effective (Grissom, 2011). These findings suggest that strong administrators who are able to involve teachers in collectively shaping the work environment can play a role in increasing retention.

Bringing the fit framework to teacher retention

Whether or not individual teachers or principals use the terms “person-job fit” or “person-organization fit,” there is some fairly strong evidence that the concept is relevant in K-12 public education, and the present study attempts to broaden the focus of research on teacher retention to emphasize the role of fit. Maximizing fit “is often touted as the key to retaining a workforce with the flexibility and commitment necessary to meet...competitive challenges”

(Kristof, 1996; p. 1). While there is certainly research on how organizational features of schools are related to retention (e.g., Boyd et al., 2010; Ingersoll, 2001), the fit framework is distinct in that it focuses explicitly on the *match* of the employee to organizational goals and values (P-O fit), as well as job requirements (P-J fit). As reviewed in the introduction, the broader literature on fit from outside education offers extensive evidence that when employees' values do not match the values reflected in the work environment, the likelihood of turnover increases (Arthur, Bell, Villado, & Doverspike, 2006; Chapman, 1989; Hoffman & Woehr, 2006), so bringing this framework to a study of teacher retention is an appropriate extension.

Many arguments for a more decentralized approach to teacher hiring have centered on the value of allowing job incumbents to participate in “recruit[ing] and retain[ing] a like-minded staff who commit themselves to a common mission” (Johnson & Landman, 2000; p. 85). In the context of teacher hiring, principals seem to place a premium on hiring teachers who “fit in” at their school. Principals seek this type of organizational match by assessing whether prospective teachers are able to fill a particular skill gap in the faculty (such as teaching a specific subject), share similar work habits with the rest of the teachers at the school, or share the same goals and values for education as the rest of the staff (Harris et al., 2010; Liu & Johnson, 2006; Rutledge et al., 2008). In addition, principals explicitly seek to create an “organizational mix” through hiring (Harris et al., 2010); that is, they activate complementary fit to create a complete faculty that contains multiple valued forms of expertise.

In many ways, student demographic factors documented by economists as drivers of school switching might also be categorized as an element of teachers' assessment of fit, part of the overall judgment made about whether the requirements of their job match personal needs and expectations. If teachers feel that their own background (e.g., personal characteristics, training,

professional experience) does not adequately prepare them to meet the needs of the students that they teach, perhaps they feel that their work environment does not fit their expectations for being a teacher.

Why should we care about increasing teacher fit? Teacher retention has been a topic of great interest for both educational researchers and policy makers over the past several years, and to the extent that fit relates to retention, this question is relevant in current policy discussions. In fact, Ingersoll and Smith (2003) argue that targeted efforts to retain existing teachers would be a much more effective method for addressing teacher shortages than attempting to recruit new teachers to the profession. Liu and Johnson (2006) propose two reasons why fit is important. First, they propose that a good fit of skills and knowledge can help teachers be more effective in their teaching assignment. They also suggest that when a position is a good match for teachers' expectations, they are likely to be more satisfied in the job. Teacher turnover is costly to schools and districts (Barnes, Crowe, & Schaefer 2007; Ingersoll & Smith, 2003; TCER 2000; Tziner & Birati, 1996; Watlington et al., 2010). For example, Tziner and Birati (1996) estimate that direct and indirect costs of replacing a worker with a \$60,000 salary- just above the average public school teacher salary in 2008-2009 (National Center for Education Statistics, 2009)- approach \$100,000. Other estimates are somewhat more conservative, estimating a per-teacher cost ranging from \$5,000 to \$18,000 (Barnes et al., 2007). Given the documented relationships between fit and retention across a variety of professions, it seems that assessing levels of teacher fit could be a useful way to identify teachers who are at risk of leaving their classroom, or the profession altogether.

Importantly, not all attrition is undesirable (Guarino et al., 2006). Without some turnover, organizations may suffer without the infusion of new ideas or innovative approaches (Ingersoll

& Smith, 2003). Further, if teachers are “misaligned” with the requirements of the job, then their attrition may in fact be a positive outcome. Edwards (1991) suggests that “misfit leads to negative outcomes, which in turn stimulates attempts to change [jobs]...thereby resolving misfit” (p. 329). Consequently, district human resource personnel and school principals might also be interested in assessing whether or not potential teachers have high levels of P-J fit before making hiring decisions, so that they can avoid bringing on candidates who might ultimately be expected to leave teaching. Rutledge et al. (2008) find some evidence of this; their research on principals in Title I schools in an urban Florida district showed that principals did not believe that teachers who tried to work around a district hiring policy designed to give Title I school first pick of teachers would have been a good fit for their school. These Title I principals “expressed disinterest in applicants not committed to working with the Title I population of students” (p. 250), showing that candidates’ willingness and interest in the specific school environment- their fit with the requirements of the job- were very important to the principals.

Methods

Data and Sample

Data for Chapter 2 came from the restricted use 2003-2004 Schools and Staffing Survey (SASS) Teacher Questionnaire and 2004-2005 Teacher Follow-up Survey (TFS).²⁰ The SASS is the most comprehensive data source available for researching issues of staffing and organization in elementary and secondary schools (Ingersoll, 2001). The SASS consists of a series of linked surveys administered to school district personnel, school principals, and teachers. In this study,

²⁰ While there is a more recent version of the SASS- that fielded from 2007-2008 through the 2008-2009 academic year- it was not yet available to researchers at the time of this analysis. As data become available, future research efforts could certainly attempt to replicate the methods described here with more current data.

only data from the *public school* District, School, Principal, and Teacher Questionnaires were used; all results obtained from questionnaires administered to private schools are omitted.

Data were collected for the National Center for Education Statistics by the US Census Bureau using a stratified probability sample design, with the 2001-2002 Common Core of Data (CCD) as the sampling frame. Schools were sampled first, followed by LEAs. Schools were selected with a probability proportionate to the square root of the number of teachers (National Center for Education Statistics, n.d.). The schools were selected to be representative at the national and state level. The weighted school response rate was 80.8 percent (National Center for Education Statistics, 2007a, p. 90).

To obtain the teacher sample, school principals were contacted and asked to submit a list of all teachers currently working in their building, with a weighted response rate of 89.2 percent (National Center for Education Statistics, 2007a, p. 90). From the school-provided lists, teachers were assigned to strata based on race, assignment in a classroom where students had Limited English Proficiency, and “beginning teacher” status (i.e., the teacher had been teaching for 3 years or less). At least one, but no more than 20, teachers from the same school were sampled (National Center for Education Statistics, n.d.). The weighted teacher response rate was 84.8 percent (National Center for Education Statistics, 2007a, p. 90).

The SASS also included a Teacher Follow-up Survey (TFS), administered 12 months after the 2003-2004 Teacher Questionnaire, which was sent to a sample of teachers who completed the year 1 Teacher Questionnaire; the weighted response rate was 91.9 percent (National Center for Education Statistics, 2007b, p. 40). The TFS was designed to support comparative analysis of teachers who continued teaching in their original schools (“stayers”), who remained in teaching but switch schools (“movers”), and who left the teaching profession

(“leavers”). The TFS was stratified by sector (private vs. public), grade level (elementary vs. secondary), and years in teaching (beginning teacher vs. experienced). Again, only data from public school TFS respondents were used in this analysis.

To create the final sample of teachers used in this analysis, data from the TFS were merged on to data from the SASS Public School Teacher Questionnaire. This linked the teacher’s responses to the Teacher Questionnaire to the data from the TFS, which was used to determine the teacher’s employment status in 2005. Consequently, the final dataset was limited to only teachers whose 2005 employment status was known. Additionally, the dataset was restricted to include only full-time teachers in a regular public school setting.

To this dataset, information from the District, School, and Principal surveys was merged on; teachers in the same school shared information from these additional surveys.

Measures

Key measures used in the analysis are described in more detail below.²¹ Because Chapter 1 provides considerable detail on varied approaches, this section only summarizes the measure that was actually incorporated into the present analysis.

Mobility Measure. From the perspective of an individual school, whether a teacher leaves the profession entirely or switches schools does not particularly matter; for the school, the loss of that teacher still represents a position that needs to be filled (Ingersoll, 2001). However, from the perspective of a school district, complete attrition from the profession may be more problematic than teachers moving laterally across schools within the district. As such, the present analysis distinguishes between complete attrition from teaching and switching schools. The dependent variable in this analysis is a three-category variable representing the teacher’s

²¹ Chapter 1 also provides more detail on multiple alternative approaches to measuring P-O and P-J fit.

observed employment status at the time of the TFS: switching schools (“movers”), leaving teaching (“leavers”) or remaining in the same school (“stayers”). This conceptualization of the dependent variable is fairly common in studies of teacher retention (see, e.g., Ingersoll, 2001; Boyd et al., 2010).

Fit measures. Following the recommendations of Costello and Osborne (2005) and Fabrigar et al. (1999), the creation of this measure relied on exploratory factor analysis with maximum likelihood (ML) extraction methods and oblique (promax) rotation. Promax rotation was chosen over other orthogonal rotation methods because of the likelihood that there is correlation between underlying factors. Decisions about the number of factors to retain were made by identifying factors with appropriate number of items loading at 0.30 or greater (with minimal cross-loading), studying scree plots over multiple test runs, considering eigenvalues,²² and drawing on previous research regarding items thought to comprise different types of fit.

The emergent P-O fit factor included 7 of the 14 survey items, which loaded at 0.40 or higher, accounting for about 74% of the variance in the underlying correlations, with an eigenvalue of 4.52.

In addition to the P-O Fit Factor, a P-J Fit Factor was identified, in which 5 of 14 items loaded at about 0.40 or higher (explaining about 17% of the variance), with an eigenvalue of 1.01.

After identifying the P-O and P-J fit factors,²³ factor scores were predicted using a least squares regression approach, which should lead to maximal validity (DiStefano, Zhu, &

²² While a common approach is to simply retain factors with eigenvalues > 1, some researchers find this approach to be arbitrary and inaccurate (see, e.g., Costello & Osborne, 2005). Consequently, the decision about the number of factors to retain was made using multiple criteria.

²³ A third distinct factor, representing “student disruptions” emerged, although only 2 of 14 items loaded at 0.60 or higher (about 9% of the variance), with an eigenvalue of 0.55. These two

Mindrila, 2009). This resulted in a P-O fit factor score with a weighted mean of 0.025 (SE=0.013) and a range of -3.461 to 1.521, and a P-J fit factor score with a weighted mean of -0.051 (SE=0.011) and a range of -1.405 to 3.347. These two factor scores were used as the primary predictor variables in the analysis that follows.

Other control variables. Given existing research on how teachers' personal characteristics and job characteristics influence retention, the analysis included a host of control variables recommended by previous research, including teacher-level variables such as age, gender, race, marital status, and earnings and school-level variables capturing the demographic makeup of the student body (Borman & Dowling, 2008; Guarino et al., 2006).

While many of the variables included as controls in the model were simply dummy variables to capture teacher, principal, or school characteristics, a few measures were created from multiple survey items. These additional measures are described in more detail below.

Teacher perceptions of influence. As shown in Ingersoll (2001), teacher influence over school decision making is positively related to teacher retention. Consequently, it was important to use teacher influence as a control, given that Ingersoll's work derived teacher influence measures from an earlier version of the same dataset as used in the present study. Using factor analysis, I reduced 13 survey items related to influence and control to three factors: influence over school management, influence over instructional decisions, and influence over colleagues.

Congruence of teacher and principal perceptions of influence. In addition to looking at how much influence teachers reported having over school decision making, I was interested in how well their perceptions matched the perceptions of their principals. Teachers and principals both responded to the same seven survey items regarding teacher influence, and I used these to

survey items had originally been hypothesized to be elements of P-J fit. This factor was not used in the present analysis.

create a continuous measure representing the congruence of perceptions regarding influence. By subtracting the principal perceptions from the teacher perceptions, I created a measure where a score of “0” meant that teachers and principals shared a common perception of influence, a positive score indicated that teachers believed they had more influence than principals gave them credit for, and a negative score meant principals believed teachers had more influence than teachers themselves indicated. It does not appear that other studies have attempted to look at how the correspondence of school leader and teacher beliefs about influence are related to teacher retention, making this measure relatively unique.

Principal educational orientation. Another underutilized set of SASS survey items is related to principals’ educational goals. Existing research suggests that teacher perceptions of the school administrator are important in their retention decisions (Boyd et al., 2010). The principal educational orientation measure is an attempt to capture the type of environment the principal fosters, based on what he or she identifies as the primary goal of education. The survey asked principals to rank the relative importance of nine educational goals, which group into four broad categories after using exploratory factor analysis: 1) an emphasis on academics (fostering academic excellence, emphasizing literacy); 2) an emphasis on work habits (focus on vocational skills, promoting good work habits and self-discipline); 3) an emphasis on personal growth (focusing on growth, self-esteem, or self-knowledge); and 4) an emphasis on traditional values (promoting moral values, fostering religious or spiritual growth).

School district recruitment incentives. Finally, because of existing research showing that the types of recruitment incentives used by a school district can have important effects on the quality of teachers it hires (Balter & Duncombe, 2008), factor analysis was used to group the various recruitment incentives reported by district personnel into three broad classifications: 1)

traditional benefits (retirement plans, health insurance, etc.); 2) unique offers (financial allocations for housing, parking, etc.); and 3) targeted bonuses (i.e., payments for hard to staff schools or subjects).

Analysis: How fit impacts teacher mobility

This analysis tested how P-O and P-J fit measures impacted teacher mobility:

Research Question 1. How is fit with teaching related to the likelihood of switching schools or leaving the profession?

I hypothesized two primary mechanisms by which P-J fit related to retention:

- Hypothesis 1a. The lower P-J fit- i.e., the more a teacher is “misaligned”²⁴ with the profession- the more likely the teacher will be to leave teaching entirely.
- Hypothesis 1b. Low P-J fit (misalignment with teaching) will not be significantly related to switching schools; teachers who are not suited for the requirements of teaching will prefer complete exit to seeking out a new school.

Research Question 2. How is fit with the school related to the likelihood of switching schools or leaving the profession?

Again, two hypotheses relating fit to retention were proposed:

- Hypothesis 2a. The higher the P-O fit, the lower the likelihood of switching schools or exiting the profession. Being a good match for the school is expected to keep teachers in the profession in the placement site where they experienced strong fit.
- Hypothesis 2b. Even after controlling for other factors related to why teachers might leave their original school, teachers improve their P-O fit when they move to a new

²⁴ Kalleberg (2008) calls this “mismatch,” which he defines as a “lack of fit” (p. 24).

school, because they are motivated they are motivated to seek out a good match when going through a job search.

To specify the model predicting teacher mobility as a function of fit using the SASS data, I pursued a design-based, single-level model, relying on adjustments based on the complex sampling design to account for the fact that, in this dataset, we could not make the assumption that data are “independent and identically distributed” (West, 2008; p.440). This approach took advantage of the svy set of commands in Stata, one commonly recommended approach for working with complex sample survey data (West, 2008; West, 2009), while using the multinomial logistic regression model presented by Menard (2002) to consider the odds of switching schools or leaving the profession, as compared to remaining in the first observed teaching assignment:

$$g_h = (X_1, X_2, \dots, X_k) = e^{(a_h + b_{h1}X_1 + b_{h2}X_2 + b_{h3}T_3 + b_{h3}S_3 + b_{h4}D_4)} \quad (1.1)$$

$$h = 1, 2$$

where the reference category was $h_0=0$ (remains in teaching), X_1 was a term representing teacher P-O fit, X_2 was a term representing teacher P-J fit,²⁵ T was vector of other teacher characteristics, S was a vector of school characteristics and D was a vector of district-related variables.

The teacher characteristics included in this model were as follows: dummy variables representing beginning teacher status, gender, race, marital status, union membership, age, possession of master’s degree, holding regular certification, and being the same race as the

²⁵ Note that I separately modeled the effects of P-O and P-J fit, and then created this model which simultaneously includes both fit measures. While the magnitude of the results is slightly smaller in the latter approach, the directionality is consistent. However, Tak (2011) points out that employees experience these multiple types of fit simultaneously in the course of their work experience, so it makes sense to look at the effect of one type of fit controlling for the other when possible. Similarly, Kristof-Brown et al. (2002) empirically demonstrate that employees experience significant and independent effects of P-O, P-J, and P-G fit simultaneously.

majority of students, colleagues, and the principal, respectively; measures of teacher perceptions of influence over decision making; total earnings; number of students taught; percent of students with limited English proficiency; percent of students receiving free/reduced lunch; grade level and subject area.

The principal and school characteristics included here were as follows: dummy variables for principal race and gender; years of principal experience; a measure of principal educational orientation; principal perceptions of the percentage of teachers in the school teaching to high standards; total enrollment; urbanicity; percent of minority teachers; percent of minority students; and the number of teaching vacancies.

Finally, district characteristics included here were as follows: district enrollment; and measures of the recruitment incentives offered to attract teachers.

The probability that Y was equal to any value other than 0 (i.e., teachers switched schools or left the profession) was

$$(Y = h|X_1, X_2) \quad (1.2)$$

$$= \frac{e^{(a_h + b_{h1}X_1 + b_{h2}X_2 + b_{h3}T_3 + b_{h3}S_3 + b_{h4}D_4)}}{1 + \sum_{h=1}^{M-1} e^{(a_h + b_{h1}X_1 + b_{h2}X_2 + b_{h3}T_3 + b_{h3}S_3 + b_{h4}D_4)}}$$

for $h=1,2$

and for the excluded category, $h_0=0$ (teachers remained in first teaching assignment)

$$P(Y = h|X_1, X_2) \quad (1.3)$$

$$= \frac{1}{1 + \sum_{h=1}^{M-1} e^{(a_h + b_{h1}X_1 + b_{h2}X_2 + b_{h3}T_3 + b_{h3}S_3 + b_{h4}D_4)}}$$

for $h=1,2$

Results

Using the previously described fit measures, I addressed three primary research questions related to the role of fit in teachers' retention decisions. Below, I first present descriptive results, and then discuss the role of fit in retention decisions and how fit changes after a move.

*Descriptives*²⁶

I began by looking at the composition of the full sample of 32,837 survey respondents, summarized in Table 13.²⁷ I found that the sample of teachers was primarily comprised of white females in full-time positions, with an average of about 14 years of teaching experience and a mean salary of about \$47,000; 15.8 percent of teachers in the sample were beginning teachers.²⁸ The majority of teachers were union members, and more than half of the teachers (57.3 percent) taught at the secondary level.

Teachers held a variety of leadership roles at their schools; most common was serving on a school or district committee, followed closely by serving as a mentor to other teachers. The majority of teachers were also observed by their colleagues while teaching. While about one-third of teachers advised a student club, only between 10 and 20 percent of teachers were involved in coaching an athletic team or serving as a department chair or curriculum specialist. Finally, about 15 percent of teachers in the sample had obtained National Board Certification.

These teachers taught at 7,736 unique schools. Almost half of these schools were located in suburban areas, with a mean of 36 teachers per school, and a student-teacher ratio of 15:1. The

²⁶ Descriptives were obtained using appropriate weights via Stata's *svy* commands, and group differences are explored using the *subpop* command within Stata's *svy* commands.

²⁷ These descriptive statistics are obtained from the 2003-2004 Schools and Staffing Survey, and include all teachers, not just those who became the subsample of the 2004-2005 Teacher Follow-up Survey.

²⁸ "Beginning teachers" are defined as those with three or fewer years of experience.

schools overwhelmingly served white students; 42.7 percent of students received free or reduced-price lunch.

The principal of each school also completed the Principal Questionnaire, and descriptive results are summarized in Table 14. Like the teachers in the sample, the principals were primarily white, though the majority of principals were males (52.2 percent). These principals had a mean age of 49.3, and on average had taught for 13.5 years before becoming administrators.

The schools were located in 3,827 districts, most of which served primarily white student populations, as summarized in Table 15. The districts had, on average, about eight schools, and differed widely in the types of incentives and bonuses they offered to recruit new teachers. In addition to district characteristics, the various recruitment incentives used in the responding districts are summarized in Table 15. Virtually all districts provided traditional benefits (such as medical insurance and retirement account) to their teachers. Other “innovative” incentives (Balter & Duncombe, 2008) were far less common; about 13% of districts offered cash incentives for teaching in shortage fields, and about 5% of districts offered one-time signing bonuses or incentives for teaching in less desirable schools. Much less common were subsidies for housing, transportation, or meals.

Turning to teacher mobility, of the 7,429 teachers included in the sample for the Teacher Follow-Up survey, 38.6 percent remained in the same school, 25.7 percent switched to another school, and 35.7 percent left teaching altogether.

I also considered the variation in teacher responses to the individual survey items that comprised the P-O and P-J fit measures. In Table 16, I present descriptive statistics for the survey responses from the 12 items that were used to create the two fit measures.

Tables 17 and 18 below summarize how survey respondents with different characteristics self-reported on these individual survey items.

Beginning teachers appeared to differ from more experienced teachers on individual items comprising the P-J fit measure, but there were few differences between beginning teachers and experienced teachers in terms of P-O fit items. White teachers, however, seemed to respond more positively to items related to P-O fit than did teachers who were racial minorities, but race-related differences in response to P-J fit items were less pronounced. Women appeared to have more positive responses than men to items representing both P-O and P-J fit, as did mentor teachers when compared to non-mentor teachers. Finally, union members tended to respond less positively to P-O fit items than did non-union members, but they actually seemed to have more positive responses to P-J fit items than their non-union counterparts.

While not reported in Table 17, I also considered differences between those who were National Board certified and those who were not; those with alternative certification versus traditional certification; and those who were department chairs and those who were not. Few significant differences were found between these groups on the individual items comprising fit variables.

Regression Results

With a clearer picture of survey respondents, I was able to build a series of regression models, using the *svy: mlogit* commands of STATA, to consider the impact of P-J and P-O fit on teachers' retention decisions. I began by looking at the impact of P-J and P-O fit separately, with a variety of teacher, school, and district covariates. These results are reported in Table 19.

How is fit with teaching related to the likelihood of switching schools or leaving the profession?

Person-job fit was a strong predictor of teacher retention. For every one-unit increase in the measure of P-J fit, teachers were 22.2 percent less likely to switch schools rather than remain in their 2003-2004 academic year placement ($RRR=0.778$, $p<0.01$), and were 31.7 percent less likely to leave teaching all together ($RRR=0.683$, $p<0.01$).

How is fit with the current school related to the likelihood of switching schools or leaving the profession?

As hypothesized, the higher the person-organization fit, the lower the odds of switching schools or leaving teaching. The results suggested that for every one-unit increase in the P-O fit measure, the odds of switching schools was 27.0 percent lower than the odds of remaining in the same school ($RRR=0.730$, $p<0.01$), while the odds of leaving teaching were 31.8 percent lower than the odds of remaining in the same school ($RRR=0.682$, $p<0.01$).

After considering separate models of P-J fit and P-O fit, I also created a combined model, in an attempt to see if P-O fit was still a valuable predictor of retention status while controlling for P-J fit and other teacher, school and district characteristics, and vice versa. The results of this model, reported in Table 20, were relatively consistent with the previous results, and supported the hypotheses outlined earlier.

Specifically, I found that P-O fit played a role in both switching schools and leaving teaching altogether, while P-J fit was now only associated with the odds of leaving teaching. Controlling for job fit plus other teacher, school, and district characteristics, every one-unit increase in the P-O fit factor was associated with a 21.7 percent decrease in the odds that a teacher would switch schools versus remain in the 2003-2004 placement ($RRR=0.783$, $p<0.05$), and a 20.1 percent decrease in the likelihood that the teacher left the profession ($RRR=0.799$, $p<0.05$).

As hypothesized, P-J fit was significantly related to the odds of remaining in the profession, but after controlling for organizational fit, it was not a significant predictor of switching schools. In the combined model, for every one-unit increase in P-J fit, the odds that the teacher left the profession instead of remaining at the 2003-2004 placement school decreased 24.0 percent ($RRR=0.760$, $p<0.01$).

After controlling for teachers' fit with their school and their job, several other teacher, school, and district characteristics emerged as significant predictors of retention. These findings are presented in Table 20.

Teacher age and experience were associated with the likelihood of leaving teaching. However, after controlling for fit, this analysis produced the somewhat unexpected finding that beginning teachers had *lower* odds of leaving the profession than those with more than three years of experience. More consistent with previous research, teachers over 50 years old were more likely to leave than younger teachers.

Teacher perceptions of influence over various school-level decisions and policies were also related to teacher mobility after controlling for fit. The more influence teachers felt they had over school management, the higher their odds of switching schools, but the more influence they had over instructional decisions, the lower their odds of switching schools. Further, the higher the congruence between teacher and principal perceptions of teacher influence over hiring, the higher the odds that teachers left the profession.

Some characteristics of the teaching position were related to the odds of moving or leaving. After controlling for fit, contrary to previous research, charter school teachers actually appeared somewhat *less* likely to switch schools or leave teaching. Higher earnings were associated with lower odds of switching schools, but were not significantly related to leaving

teaching. High school teachers were about twice as likely as elementary teachers to leave teaching completely, which was not unexpected given the likelihood that they had more job alternatives than elementary teachers. Special education teachers were more than three times as likely as others to switch schools, but science teachers were actually significantly less likely than other types of teachers to move to a new school.

I also found some evidence that, after controlling for fit, the school leader played a role in teacher retention decisions. For every one percent increase in the percentage of teachers that principals perceived as “teaching to high standards,” teachers were about two percent less likely to switch schools and about one percent less likely to leave teaching altogether. Teachers who worked for principals with an “academic orientation” to education were significantly less likely to switch schools than teachers whose principals had a different primary goal for education. Further, teachers working for principals with an emphasis on “moral values,” were marginally more likely to switch schools than teachers working for principals with a different orientation. Finally, teachers were about 80 percent more likely to switch schools if they worked for a racial minority principal than if they worked for a white principal.

There was also some evidence that district recruitment practices impacted teacher retention decisions even after controlling for fit. In districts that primarily offered “traditional” benefits (i.e., medical insurance and retirement), teachers were somewhat more likely to switch schools. However, in districts with special bonuses designed to retain teachers (i.e., signing bonuses or incentives for hard-to-staff schools or subjects), teachers did appear less likely to switch schools or leave the profession.

Analysis: Do movers experience higher levels of fit in their new school?

After determining that fit was a strong predictor of teacher mobility, I was interested in learning more about what happened to the perceived fit of those teachers who moved to a new school in the second year of data collection. As such, I explored a third research question:

Research Question 3: When teachers leave their original school, do they assess fit to be higher in their new school? If so, what factors are associated with improved fit?

Using fit as a dependent variable is not particularly common in the literature. Kristof-Brown et al. (2005) noted, "...a better understanding of what it means to people to 'fit' and the mechanisms that stimulate fit are long overdue" (p. 321). Further, research specifically exploring how perceptions of fit change after moving to a new organization is uncommon; in fact, deRue and Morgeson (2007) observed that there is almost no work addressing how fit changes over time. However, Kalleberg (2008) speculates that lack of fit motivates individuals "to change the work situation to improve the match" (p. 37). As such, it was hypothesized that movers would experience higher levels of fit in the organization in which they taught for the 2004-2005 academic year.

Because of the Schools and Staffing Survey design, I was able to explore how fit changed for those teachers who had switched schools before completing the Teacher Follow-up Survey. Of the 4,123 teachers in the TFS, about eight percent had moved to a new school for the 2004-2005 academic year. Of these movers, 46.6 percent moved to another public school in the same district; 36.9 percent moved to another public school in a different district, but same state; 13.7 percent moved to another public school in a different state; and 2.9 percent moved to a private school.

I created a new dependent variable representing improvement in P-O fit. To do this, I replicated the creation of the P-O fit measure using movers' responses to the TFS, and then calculated the difference between P-O fit in 2003-2004 (the original school) and P-O fit in 2004-2005 (the new school); teachers with higher P-O fit in 2004-2005 were considered to have "improved" their fit in their new placement. This new dependent variable was a dichotomous variable coded "1" for teachers who improved P-O fit after a move, and "0" for teachers who did not improve fit.

Results

As seen in Table 21, movers had mixed feelings regarding their working conditions in the 2004-2005 school compared to the 2003-2004 school. For the most part, movers did not identify strong differences in the conditions they encountered in their new school relative to their old school. However, there were a few notable exceptions. The majority of movers felt that opportunities to learn from colleagues, gain recognition from administrators, and experience a general sense of accomplishment had all increased in the new school. A very small majority also indicated that, overall, working conditions were better in the new school.

These findings raised hopes that the hypothesis that movers would experience higher levels of P-O fit in their new environment would be supported. To test this hypothesis, I first explored whether or not movers were significantly more likely to increase their P-O fit than teachers who remained in their original school. Unfortunately, descriptive findings cast doubt on this hypothesis. I found no significant difference in the mean percentage of movers versus stayers who indicated that their P-O fit had improved in the 2004-2005 academic year (as compared to the 2003-2004 academic year); while 48.3 percent of movers indicated that P-O fit

had improved in the year of the TFS, 47.0 percent of stayers also reported higher levels of P-O fit.

Despite these disappointing findings, I was still interested in exploring what factors *did* lead to increased P-O fit for almost half the movers. Table 22 reports the results of logistic regression analyses exploring the likelihood that P-O fit increased after a move.

The results that emerged were difficult to interpret. Very few variables seemed to predict increased P-O fit. High school teachers seemed to improve fit after a move. The higher the percentage of minority colleagues a teacher had at the original school, the higher the odds that they improved fit in the second school.

Of the significant results, most were actually associated with a *decrease* in the likelihood of improving fit after a move. Teachers with a master's degree, and those who were the same race as their original school's principal were *less* likely to improve their P-O fit after a move. The more teachers believed that they influenced instructional decisions in their original school, the lower the odds that they improved fit when they got to their new school. Further, the more that teachers' perceptions of influence over professional development and student discipline exceeded principal perceptions of teaching influence in these areas, the less likely it was that fit improved for movers. The more that the original principal believed teachers in the school were teaching to high standards, the lower the odds that P-O fit improved. Similarly, teachers who left a principal with an "academic orientation" had lower odds of improving fit in the new school.

Given these findings, it was difficult to determine conclusively which predictors might be expected to lead to increases in P-O fit after a teacher moves to a new school, but may provide useful information for future analysis.

Discussion

Why do these findings on fit matter? As previously discussed, reducing teacher turnover can help schools and districts avoid high costs, both financial and organizational (Barnes, Crowe, & Schaefer 2007; Ingersoll & Smith, 2003; TCER 2000; Tziner & Birati, 1996; Watlington et al., 2010). There is ample evidence across a variety of professions that fit is an important driver of retention, and this analysis extended that research specifically to teachers, finding that person-organization and person-job fit both influenced teacher retention. Increased P-O fit was associated with decreased odds of switching schools and leaving teaching altogether. However, contrary to expectations, teachers who switched schools did not have significantly higher P-O fit in their new schools; they were no more likely than teachers who remained in their original schools to increase their perceptions of fit in the second year of the survey. Finally, P-J fit was associated only with decreased odds of leaving teaching, but not with decreased odds of switching schools. This makes intuitive sense: a teacher could be well matched to the requirements of the profession, and thus choose to remain a teacher regardless of the environment in which she is teaching, particularly after controlling for organizational fit.

One surprising finding was that beginning teachers- those with less than three years of experience- were actually found to be less likely to leave the profession than those with more experience, after controlling for fit. This finding contradicts extensive previous research which suggests beginning teachers are more likely to quit than those with more years in the classroom (e.g., Borman & Dowling, 2008; Guarino et al., 2006). Chapter 3 will more fully explore the role of fit in beginning teacher turnover, but this finding previews the emergent finding that fit, which is not frequently included in studies of beginning teacher turnover, might play a role in counteracting the typically high levels of attrition at the beginning of the career. As will be

discussed later in this dissertation, districts and schools could perhaps do more to ensure that beginning teachers are hired into positions that are a good match for them, rather than slotting them into open positions that more experienced teachers did not want.

The finding that those over age 50 are more likely to exit teaching, likely due to retirement, was more expected, and consistent with the “U-shaped curve” representing high levels of attrition for very new or very experienced teachers, referenced by Guarino et al. (2006).

Our findings on charter school retention also contradicted some existing research. Controlling for fit, charter teachers were observed to be *less* likely to quit or switch schools than their traditional school counterparts. Much like the explanation offered for beginning teachers, it may be the case that typically high levels of teacher turnover in charter schools could be mitigated by adopting recruitment and selection policies that emphasized assessment of fit.

The somewhat contradictory findings for both beginning and charter school teachers might suggest a new direction for research on these populations of teachers. Existing studies have not controlled for teacher perceptions of fit when looking at retention of beginning or charter school teachers, so it may be the case that strong person-organization and/or strong person-job fit acted as a counterweight to typically observed patterns of attrition. Working hard to ensure a good fit for beginning teachers or those in charter schools during their recruitment and selection experience could potentially be a useful method of increasing retention, though clearly more research on these issues is necessary. This recommendation is not without merit based on research in other profession; support for integrating judgments of fit into the recruitment and selection process is quite common in the industrial organizational psychology literature (see, e.g., McCulloch & Turban, 2007; van Viannen, 2005) but only occasionally recommended by educational researchers (Liu & Johnson, 2006).

Results linking teacher influence to teacher retention were consistent with prior research, including studies using the Schools and Staffing Study (Ingersoll, 2001). However, it is interesting to note that teacher influence was observed to be a driver of both retention *and* attrition. For example, the more influence teachers had over school management, the more likely they were to switch schools. It could be the case that being asked to have heavy involvement in school management was out of step with teachers' desired level influence. Maslach and Leiter (1997) found that, while influence can be an important way to increase employee retention, if the time commitment required to influence organizational decisions exceeds that which employees are interested in providing, it may actually have a deleterious effect on employee attitudes toward the organization. Unfortunately, these data do not allow us to observe how much time teachers spend influencing various school policies, nor do they tell us anything about how much teachers *want* to be involved in school decision making, so it was not possible to know for sure if Maslach and Leiter's (1997) results could explain these findings. Regardless, this finding may offer an important caution to school leaders: while there was certainly evidence that involving teachers in decision making was valuable, it is also important to ensure that the time commitment and tasks being asked of teachers match their expectations and desires for being involved, as both elements are important in ensuring that influence remains a positive method of increasing teacher retention. In some sense, this is simply an extension of recommendations for assessing fit; if teacher participation in decision making is required, it is important to assess how likely it is an individual teacher embraces and values this organizational expectation.

Finally, while I did not identify a significant relationship between switching schools and improving fit, this should not be a particularly surprising finding, given that research on the topic is uncommon, making it difficult to appropriately hypothesize levels of fit after employee

turnover. Interestingly, some research suggests that job switching is habitual for some employees; past switching is a good predictor of future switching (Judge & Watanabe, 1995). Because the dataset is not longitudinal, it is impossible to know if our switchers could be categorized as *frequent* switchers, prone to moving between employers frequently regardless of organizational fit. However, it seems to be one plausible explanation.

Appendix

Appendix C

Table 13

Descriptive characteristics of the Schools and Staffing teacher survey sample

	Mean	Standard Error
Teacher characteristics		
Female	0.754	0.005
Racial minority	0.169	0.003
Union member	0.773	0.005
Master's degree	0.461	0.006
National Board Certification	0.150	0.004
Beginning teacher	0.159	0.004
Years experience	13.998	0.116
Total earnings (<i>dollars</i>)	46730.580	207.793
Teaching position		
Charter		
Elementary School	0.427	0.009
Middle School	0.284	0.008
High School	0.289	0.008
Full time	0.909	0.003
Subject area		
Arts	0.066	0.002
Elementary Education	0.354	0.008
English/Language Arts	0.107	0.003
English as a Second Language	0.014	0.002
Foreign Language	0.025	0.001
Physical Education	0.056	0.002
Math	0.071	0.002
Science	0.065	0.002
Social Studies	0.059	0.002
Special education	0.121	0.003
Vocational/Technology	0.048	0.002
Other	0.014	0.001
Percent of students with IEP	8.512	0.424
Percent of students with LEP	15.701	0.291
Teacher leadership		
Mentors others	0.459	0.005
Observed by others	0.629	0.005
Sports coach	0.145	0.003

Table 13 (cont'd)

Table 15 (cont'd)		
Student club advisor	0.343	0.005
Department chair	0.219	0.004
Curriculum specialist	0.003	0.103
Committee member	0.502	0.006
Number of observations	33,695	
Source: Schools and Staffing Survey 2003-2004 Public School Teacher Survey		

Table 14

*Descriptive characteristics of the Schools and Staffing
school survey sample*

	Mean	Standard Error
Type		
Charter	0.024	0.002
Elementary	0.576	0.009
Middle	0.149	0.006
High	0.201	0.007
Combined Grades	0.074	0.004
Location		
Urban	0.245	0.008
Rural	0.273	0.008
Suburban	0.482	0.009
Composition		
Number of teachers	35.552	0.390
Student:teacher ratio	15.074	0.168
Percent white students	85.663	0.481
Percent black students	7.557	0.289
Percent Native American students	0.458	0.031
Percent Asian American students	1.125	0.078
Percent Hispanic students	5.198	0.396
Percent of students with IEPs	14.104	0.222
Percent of students with LEP	6.776	0.305
Percent of FLE students	42.680	0.560
Number of schools	7,736	
Principal characteristics		
Female	0.478	0.009
White	0.878	0.006
Black	0.109	0.005
Native American	0.012	0.002
Asian American	0.006	0.001
Hispanic	0.052	0.005
Age (years)	49.335	0.153
Teaching experience (years)	13.537	0.124
Number of principals	7,736	

Source: Schools and Staffing Survey 2003-2004 Public
School Teacher Survey

Table 15

Descriptive characteristics of the Schools and Staffing district survey sample

	Mean	Standard Error
Composition		
Number of schools	7.759	0.230
Number of students	4448.955	258.153
Percent white students	77.331	0.574
Percent black students	8.251	0.320
Percent Native American students	2.272	0.136
Percent Asian American students	1.855	0.164
Percent Hispanic students	10.290	0.428
Teacher recruitment incentives		
Special bonuses		
One-time signing bonus	0.054	0.004
Pay incentives for less desirable location	0.046	0.004
Pay incentives for shortage fields	0.132	0.007
Traditional benefits		
Medical insurance	0.989	0.003
Dental insurance	0.838	0.009
Life insurance	0.852	0.009
Retirement plan	0.908	0.008
Unique benefits		
Housing subsidies	0.017	0.003
Subsidized meals	0.027	0.004
Subsidized transportation	0.041	0.006
Number of districts	3,827	

Source: Schools and Staffing Survey 2003-2004 Public School Teacher Survey

Table 16

Survey items that are possible components of P-O and P-J fit measures, with weighted percent of teachers selecting each answer option

Person-Organization Fit		Strongly disagree	Disagree	Agree	Strongly agree
Most of my colleagues share my beliefs and values about what the central mission of the school should be.		0.02	0.09	0.49	0.39
I am generally satisfied with being a teacher at this school.		0.03	0.06	0.31	0.60
The stress and disappointments involved in teaching at this school aren't really worth it.		0.42	0.47	0.09	0.03
The teachers at this school like being here; I would describe us as a satisfied group.		0.03	0.15	0.54	0.28
I like the way things are run at this school.		0.05	0.18	0.53	0.24
I think about transferring to another school. ^b		0.41	0.35	0.19	0.05
The school administration's behavior toward the staff is supportive and encouraging.		0.48	0.10	0.33	0.53
In this school, staff members are recognized for a job well done.		0.06	0.18	0.43	0.33
Person-Job Fit					
If I could get a higher paying job I'd leave teaching as soon as possible.		0.31	0.49	0.13	0.07
I don't seem to have as much enthusiasm now as I did when I began teaching.		0.31	0.38	0.22	0.09
I sometimes feel it is a waste of time to try to do my best as a teacher.		0.68	0.16	0.13	0.03
		Certainly would not	Probably would not	Chances about even	Probably would
					Certainly would
If you could go back to your college days and start over again, would you become a teacher or not?		0.04	0.11	0.17	0.26
					0.42

Source: Schools and Staffing Survey 2003-2004 Public School Teacher Survey

Table 17
Differences in mean score on fit items by selected teacher characteristics

	Male	Female		White	Other Race		<3 yrs. exp.	3 or more years exp.		Non- Union	Union		Non- Mentor	Mentor	
Person-organization fit items															
Most of my colleagues share my beliefs and values about the central mission of the school	3.10	3.30	***	3.26	3.17	***	3.26	3.23		3.28	3.25	‡	3.24	3.27	‡
I am generally satisfied with being a teacher at this school.	3.44	3.50	***	3.49	3.37	***	3.48	3.47		3.48	3.48		3.45	3.52	***
The stress and disappointments involved in teaching at this school aren't really worth it. ¹	1.76	1.72	**	1.72	1.85	***	1.73	1.72		1.77	1.72	**	1.75	1.70	***
The teachers at this school like being here; I would describe us as a satisfied group.	3.00	3.07	***	3.07	2.92	***	3.06	3.06		3.04	3.06		3.03	3.09	***
I like the way things are run at this school.	2.93	3.00	*	2.98	2.81	***	2.95	3.00		2.99	2.95	*	2.93	3.00	***
I think about transferring to another school. ¹	1.96	1.87	***	1.88	2.01	***	1.87	2.02	***	1.94	1.88	**	1.90	1.88	

Table 17 (cont'd)

The school administration's behavior toward the staff is supportive and encouraging.	3.35	3.33		3.34	3.35		3.32	3.44	***	3.40	3.32	***	3.30	3.38	***
In this school, staff members are recognized for a job well done.	2.97	3.04	***	3.02	3.05		3.00	3.14	***	3.07	3.00	***	2.96	3.08	***
Person-job fit items															
If I could get a higher paying job I'd leave teaching as soon as possible. ¹	2.08	1.93	***	1.95	2.16	***	2.00	1.83	***	2.06	1.94	***	2.00	1.93	***
I don't seem to have as much enthusiasm now as I did when I began teaching. ¹	2.08	2.09		2.08	2.15	*	2.14	1.83	***	2.13	2.08	*	2.15	2.02	***
I sometimes feel it is a waste of time to try to do my best as a teacher. ¹	1.60	1.50	***	1.53	1.52		1.53	1.48	*	1.55	1.51	*	1.56	1.48	***
If you could go back to your college days and start over again, would you become a teacher or not?	3.82	3.97	***	3.93	3.89		3.88	4.18	***	3.79	3.97	***	3.85	4.02	***

‡ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Source: Schools and Staffing Survey 2003-2004 Public School Teacher Survey

¹ Note that these items have been reverse coded

Table 18

Differences in mean score on fit items by characteristics of teaching position

	Non-Charter	Charter		Secondary	Elementary	
Person-organization fit items						
Most of my colleagues share my beliefs and values about the central mission of the school	3.25	3.31	‡	3.16	3.38	***
I am generally satisfied with being a teacher at this school.	3.48	3.41	**	3.44	3.53	***
The stress and disappointments involved in teaching at this school aren't really worth it. ¹	1.73	1.80	*	1.75	1.69	***
The teachers at this school like being here; I would describe us as a satisfied group.	3.06	3.04		3.00	3.13	***
I like the way things are run at this school.	2.96	2.90		2.91	3.03	***
I think about transferring to another school. ¹	1.89	2.09	***	1.93	1.84	***
The school administration's behavior toward the staff is supportive and encouraging.	3.34	3.39		3.31	3.38	***
In this school, staff members are recognized for a job well done.	3.02	3.09	‡	2.96	3.10	***
Person-job fit items						
If I could get a higher paying job I'd leave teaching as soon as possible. ¹	1.97	1.94		2.01	1.90	***
I don't seem to have as much enthusiasm now as I did when I began teaching. ¹	2.09	1.94	***	2.13	2.04	***
I sometimes feel it is a waste of time to try to do my best as a teacher. ¹	1.52	1.46	‡	1.61	1.41	***

Table 18 (cont'd)

If you could go back to your college days and start over again, would you become a teacher or not?	3.93	4.08	***	3.85	4.04	***
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‡ p<0.10, * p<0.05, **p<0.01, *** p<0.001

Source: Schools and Staffing Survey 2003-2004 Public School Teacher Survey

¹ Note that these items have been reverse coded

Table 19

Results of multinomial logistic regression considering the impact of P-O and P-J fit on teacher retention decisions

	Mover		Leaver		Mover		Leaver	
	RRR (t- statistic)		RRR (t- statistic)		RRR (t- statistic)		RRR (t- statistic)	
Person-organization fit	0.730	**	0.682	**				
	(0.059)		(0.061)					
Person-job fit					0.778	**	0.683	**
					(0.059)		(0.062)	
<i>Controls included:</i>								
Teacher characteristics	x		x		x		x	
Teacher racial match	x		x		x		x	
Teacher influence	x		x		x		x	
Teacher leadership	x		x		x		x	
Teaching position	x		x		x		x	
Principal characteristics	x		x		x		x	
School characteristics	x		x		x		x	
District characteristics	x		x		x		x	

Source: Schools and Staffing Survey 2003-2004 Public School Teacher Survey and 2004-2005 Teacher Follow-up Survey

‡ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table 20

Results of multinomial logistic regression considering the impact of P-O and P-J fit on teacher retention decisions

	Switch Schools		Leave Teaching	
	RRR (t-statistic)		RRR (t-statistic)	
Teacher-level				
Teacher fit				
Person-organization fit	0.783 (0.078)	*	0.799 (0.081)	*
Person-job fit	0.886 (0.086)		0.760 (0.079)	**
Teacher background characteristics				
Beginning teacher	0.882 (0.186)		0.641 (0.136)	*
Female	0.720 (0.139)	‡	0.848 (0.170)	
Racial minority	1.361 (0.342)		1.456 (0.513)	
Married	1.158 (0.204)		1.391 (0.241)	‡
Union member	0.742 (0.140)		0.825 (0.170)	

Table 20 (cont'd)

Age 50 or greater	0.674	‡	3.564	***
	(0.141)		(0.648)	
Master's degree	1.255		1.010	
	(0.225)		(0.175)	
Regular certification	0.778		0.606	*
	(0.177)		(0.150)	
Same race as other teachers	1.098		0.812	
	(0.377)		(0.387)	
Same race as students	1.372		1.149	
	(0.470)		(0.575)	
Same race as principal	1.114		1.400	
	(0.277)		(0.392)	
Teacher perceptions of influence				
Teacher perception of influence over school management	1.627	*	1.092	
	(0.349)		(0.233)	
Teacher perception of influence over instructional decisions	0.636	*	0.970	
	(0.112)		(0.197)	
Teacher perception of influence over evaluating colleagues	1.154		1.083	
	(0.146)		(0.142)	
Congruence of teacher and principal perceptions of influence over school management	1.119		1.038	
	(0.096)		(0.104)	

Table 20 (cont'd)

Congruence of teacher and principal perceptions of influence over curriculum	1.105 (0.094)		0.994 (0.088)	
Congruence of teacher and principal perceptions of influence over professional development	0.895 (0.071)		1.079 (0.101)	
Congruence of teacher and principal perceptions of influence over evaluating colleagues	0.957 (0.077)		0.864 (0.073)	‡
Congruence of teacher and principal perceptions of influence over hiring colleagues	0.947 (0.074)		1.272 (0.108)	**
Congruence of teacher and principal perceptions of influence over student discipline	0.873 (0.075)		0.950 (0.082)	
Congruence of teacher and principal perceptions of influence over school budget	0.985 (0.082)		0.861 (0.076)	‡
Teaching position				
Teaches in charter school	0.410 (0.217)	‡	0.287 (0.146)	*
Total earnings (log)	0.296 (0.114)	**	0.862 (0.283)	
Number of students	1.020 (0.009)	*	1.005 (0.010)	
Percent LEP students	1.001 (0.004)		0.993 (0.005)	

Table 20 (cont'd)

Percent IEP students	0.997 (0.005)	0.996 (0.005)	
Teaches middle school	0.951 (0.207)	0.882 (0.215)	
Teaches high school	0.948 (0.231)	2.339 (0.595)	***
Teaches special education	3.269 (1.528)	* 1.142 (0.568)	
Teaches math	1.185 (0.360)	1.244 (0.349)	
Teaches science	0.491 (0.138)	* 0.740 (0.175)	
School-level			
Principal background characteristics			
Years as principal in current school	0.980 (0.016)	0.978 (0.016)	
Female	1.165 (0.186)	0.950 (0.154)	
Minority	1.878 (0.517)	* 1.242 (0.375)	

Table 20 (cont'd)

Principal educational orientation				
Educational orientation: Academic	0.859	*	0.940	
	(0.067)		(0.080)	
Educational orientation: Work habits	1.037		0.985	
	(0.088)		(0.089)	
Educational orientation: Personal growth/social growth	0.931		1.047	
	(0.080)		(0.072)	
Educational orientation: Moral values	1.122	‡	1.103	
	(0.068)		(0.082)	
Principal perceptions about the percent of teachers teaching to high standards	0.981	****	0.989	*
	(0.004)		(0.005)	
School characteristics				
Total enrollment (scaled by 100)	1.022		0.992	
	(0.016)		(0.016)	
Urban	1.261		1.033	
	(0.239)		(0.227)	
Rural	1.519	‡	1.126	
	(0.324)		(0.230)	
Percent of minority teachers	0.988	*	0.992	
	(0.006)		(0.006)	
Percent of minority students	1.004		1.003	
	(0.004)		(0.004)	

Table 20 (cont'd)

Number of vacancies	0.930 (0.191)		1.177 (0.254)	
District-level				
Teacher recruitment strategies: Targeted bonuses	0.728 (0.065)	***	0.853 (0.082)	†
Teacher recruitment strategies: Traditional benefits	1.238 (0.157)	†	0.895 (0.071)	
Teacher recruitment strategies: Unique benefits	0.969 (0.102)		1.044 (0.111)	
Total enrollment (scaled by 100)	1.000 0.000		1.000 0.000	
Constant	2308748.033 (9781635.732)	***	44.332 (166.060)	
Observations	2936		2936	

Source: Schools and Staffing Survey 2003-2004 Public School Teacher Survey and 2004-2005 Teacher Follow-up Survey

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table 21

Mover perceptions of working conditions in 2004-2005 compared to 2003-2004

	Better this year	No difference	Better last year
Salary	0.337	0.500	0.164
Benefits	0.193	0.644	0.163
Opportunities for professional advancement/promotion	0.322	0.606	0.073
Opportunities for professional development	0.380	0.501	0.119
Opportunities for learning from colleagues	0.486	0.395	0.119
Social relationships with colleagues	0.427	0.380	0.193
Recognition from administrators	0.511	0.330	0.159
Safety of environment	0.410	0.462	0.128
Influence over workplace policies and practices	0.348	0.547	0.105
Autonomy over own work	0.411	0.456	0.133
Professional prestige	0.389	0.514	0.098
Procedures for performance evaluation	0.322	0.561	0.117
Manageability of workload	0.349	0.426	0.225
Ability to balance personal life and work	0.352	0.461	0.186
Availability of resources/materials	0.389	0.393	0.219
General work conditions	0.517	0.331	0.152
Job security	0.300	0.568	0.133
Intellectual challenge	0.504	0.414	0.082
Sense of personal accomplishment	0.525	0.350	0.125
Opportunity to make a difference in the lives of others	0.423	0.482	0.095
Number of observations		2,936	

Source: 2004-2005 Teacher Follow-up Survey

Table 22
Results of logistic regression exploring increases in P-O fit for movers

	OR (SE)	
Teacher-level		
Teacher background characteristics		
Beginning teacher flag	1.002 (0.263)	
Female	1.610 (0.434)	‡
Racial minority	0.760 (0.300)	
Married	0.790 (0.172)	
Union member	1.341 (0.314)	
Age 50 or greater	0.702 (0.190)	
Master's degree	0.579 (0.147)	*
Regular certification	1.061 (0.304)	
Same race as other teachers	2.861 (1.840)	
Same race as students	0.523 (0.261)	
Same race as principal	0.414 (0.162)	*

Table 22 (cont'd)

Teacher perceptions of influence

Teacher perception of influence over school management	0.849 (0.234)	
Teacher perception of influence over instructional decisions	0.568 (0.141)	*
Teacher perception of influence over evaluating colleagues	0.968 (0.170)	
Congruence of teacher and principal perceptions of influence over school management	1.031 (0.127)	
Congruence of teacher and principal perceptions of influence over curriculum	1.120 (0.132)	
Congruence of teacher and principal perceptions of influence over professional development	0.754 (0.089)	*
Congruence of teacher and principal perceptions of influence over evaluating colleagues	1.092 (0.124)	
Congruence of teacher and principal perceptions of influence over hiring colleagues	0.910 (0.104)	
Congruence of teacher and principal perceptions of influence over student discipline	0.790 (0.094)	*
Congruence of teacher and principal perceptions of influence over school budget	1.005 (0.117)	
Teaching position		
Teaches in charter school	1.361 (0.991)	
Total earnings (log)	1.893 (0.812)	
Number of students	1.012 (0.012)	

Table 22 (cont'd)

Percent LEP students	0.994 (0.005)	
Percent IEP students	1.012 (0.007)	‡
Teaches middle school	1.421 (0.427)	
Teaches high school	2.144 (0.645)	*
Teaches special education	0.360 (0.230)	
Teaches math	1.039 (0.433)	
Teaches science	1.948 (0.869)	
School-level		
Principal background characteristics		
Years as principal in current school	0.998 (0.020)	
Female	0.684 (0.155)	‡
Minority	1.028 (0.434)	
Principal educational orientation		
Educational orientation: Academic	0.803 (0.084)	*
Educational orientation: Work habits	1.012 (0.106)	

Table 22 (cont'd)

Educational orientation: Personal growth/social growth	1.023 (0.190)	
Educational orientation: Moral values	0.998 (0.085)	
Principal perceptions about the percent of teachers teaching to high standards	0.988 (0.006)	*
School characteristics		
Total enrollment (scaled by 100)	0.971 (0.020)	
Urban	0.863 (0.233)	
Rural	0.638 (0.168)	‡
Percent of minority teachers	1.021 (0.009)	*
Percent of minority students	1.001 (0.005)	
Number of vacancies	1.193 (0.375)	
District-level		
Teacher recruitment strategies: Special bonuses	1.060 (0.133)	
Teacher recruitment strategies: Traditional benefits	0.911 (0.150)	
Teacher recruitment strategies: Unique benefits	0.929 (0.141)	
Total enrollment (scaled by 100)	1.000 0.000	‡

Table 22 (cont'd)

Constant	0.001 (0.003)
Observations	2936

Source: Schools and Staffing Survey 2003-2004 Public School Teacher Survey and 2004-2005 Teacher Follow-up Survey

‡ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

References

References

- Arthur, W., Bell, S., Villado, A. & Doverspike, D. (2006). The use of person-organization fit in employment decision making: An assessment of its criterion-rated validity. *Journal of Applied Psychology*, 91(4), 786-801.
- Balter, D. & Duncombe, B. (2008). Recruiting highly qualified teachers: Do district recruitment practices matter? *Public Finance Review*, 36, 33-62.
- Barnes, G., Crowe, E., & Schaefer, B. (2007). *The cost of teacher turnover in five school districts: A pilot study*. Washington, DC: National Commission on Teaching and America's Future. Retrieved February 21, 2011 from http://www.nctaf.org/resources/demonstration_projects/turnover/documents/CTTFullReportfinal.pdf.
- Borman, G., & Dowling, N.M. (2008). Teacher attrition and retention: A meta-analytic and narrative review of the research. *Review of Educational Research*, 78(3), 367-409.
- Boyd, D., Grossman, P., Ing, M., Lankford, H., Loeb, S., & Wyckoff, J. (2010). The influence of school administrators on teacher retention decisions. *American Education Research Journal*, XX(X), 1-31.
- Chatman, J. (1989). Improving interactional organizational research: A model of person-organization fit. *Academy of Management Review*, 14(3), 333-349.
- Clotfelter, C., Glennie, E., Ladd, H., & Vigdor, J. (2008). Would higher salaries keep teachers in high-poverty schools? Evidence from a policy intervention in North Carolina. *Journal of Public Economics*, 92(5-6), 1352-1370.
- Costello, A. & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your data. *Practical Assessment, Research, and Evaluation*, 10(7), 1-9.
- deRue, D.S. & Morgeson, F. (2007). Stability and change in person-team and person-role fit over time: The effects of growth satisfaction, performance, and general self-efficacy. *Journal of Applied Psychology*, 92(5), 1242-1253.
- DiStefano, C., Zhu, M., & Mindrila, D. (2009). Understanding and using factor scores: Considerations for the applied researcher. *Practical Assessment, Research, and Evaluation*, 14(20), 1-11.
- Edwards, J. (1991). Person-job fit: A conceptual integration, literature review, and methodological critique. In C.L. Cooper & I.T. Robertson (Eds.). *International Review of Industrial Organizational Psychology* (Volume 6, pp. 283-357). Chichester, England: Wiley.

- Edwards, J. & Shipp, A. (2007). The relationship between person-environment fit and outcomes: An integrative theoretical framework. In C. Ostroff & T. Judge (Eds.). *Perspectives on Organizational Fit*. New York: Taylor and Francis.
- Fabrigar, L., Wegener, D., MacCallum, R., Strahan, E. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, 4(3), 272-299.
- Feng, L., Figlio, D., & Sass, T. (2010). School accountability and teacher mobility. *NBER Working Paper 16070*. Washington, DC: National Bureau for Economic Research.
- Grissom, J. (2011). Can good principals keep teachers in disadvantaged schools? Linking principal effectiveness to teacher satisfaction and turnover in hard-to-staff environments. *Teachers College Record*, 113(11).
- Guarino, C., Santibanez, L., Daley, G. (2006). Teacher recruitment and retention: A review of the recent empirical literature. *Review of Educational Research*, 76(2), 173-208.
- Hanushek, E., Kain, J., & Rivkin, S. (2002). Why public schools lose teachers. *Journal of Human Resources*, 39(2), 326-354.
- Harris, D., Rutledge, S., Ingle, W.K., & Thompson, C. (2010). Mix and match: What principals really look for when hiring teachers. *Education Finance and Policy*, 5(2), 228-246.
- Hoffman, B. & Woehr, D. (2006). A quantitative review of the relationship between person-organization fit and behavioral outcomes. *Journal of Vocational Behavior*, 68(3), 389-399.
- Imazeki, J. (2005). Teacher salaries and teacher attrition: How much is enough? *Economics of Education Review*, 24, 431-449.
- Ingersoll, R. (2001). Teacher turnover and teacher shortages: An organizational analysis. *American Educational Research Journal*, 38(3), 499-534.
- Ingersoll, R., & Smith, T. (2003). The wrong solution to the teacher shortage. *Educational Leadership*, 60(8), 30-33.
- Johnson, S.M. & Birkeland, S. (2003). Pursuing a “sense of success”: New teachers explain their career decisions. *American Educational Research Journal*, 40(3), 581-617.
- Johnson, S.M., & Landman, J. (2000). "Sometimes bureaucracy has its charms": The working conditions of teachers in deregulated schools. *Teachers College Record*, 102(1), 85-124.
- Judge, T., & Watanabe, S. (1995). Is the past prologue? A test of Ghiselli's hobo syndrome. *Journal of Management*, 21(2), 211-229.
- Kalleberg, A. (2008). The mismatched worker: When people don't fit their jobs. *Academy of*

Management Perspectives, 22(1), 24-40.

- Kristof, A. (1996). Person-organization fit: An integrative review of its conceptualizations, measurement, and implications. *Personnel Psychology*, 49(1), 1-49.
- Kristof-Brown, A., Zimmerman, R., & Johnson, E. (2005). Consequences of individuals' fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology*, 58(2), 281-342.
- Lauver, K., & Kristof-Brown, A. (2001). Distinguishing between employees' perceptions of person-job and person-organization fit. *Journal of Vocational Behavior*, 59(3), 454-470.
- Liu, E. & Johnson, S.M. (2006). New teachers' experiences of hiring: Late, rushed, and information-poor. *Educational Administration Quarterly*, 42(3), 324-360.
- Maslach, C., & Leiter, M. P. (1997). *The truth about burnout*. San Francisco: Jossey Bass.
- McCulloch, M., & Turban, D. (2007). Using person-organization fit to select employees for high-turnover jobs. *International Journal of Selection and Assessment*, 15, 63-71.
- Menard, S. (2002). *Applied Logistic Regression Analysis: Second Edition*. Thousand Oaks, CA: Sage Publications.
- National Center for Education Statistics. (n.d.). *2003-2004 SASS Methods and Procedures*. Retrieved from <http://nces.ed.gov/surveys/sass/methods0304.asp#frame> on September 10, 2009.
- National Center for Education Statistics. (2007a). *Documentation for the 2003-2004 Schools and Staffing Survey*. NCES 2007-337. Washington, DC: U.S. Department of Education.
- National Center for Education Statistics. (2007b). *Documentation for the 2004-2005 Teacher Follow-up Survey*. NCES 2007-349. Washington, DC: U.S. Department of Education.
- National Center for Education Statistics. (2009). *Digest of Education Statistics Table 78: Estimated average annual salary of teachers in public elementary and secondary schools: Selected years, 1959-60 through 2008-09*. Washington, DC: National Center for Education Statistics. Retrieved from http://nces.ed.gov/programs/digest/d09/tables/dt09_078.asp on January 3, 2011.
- Ondrich, J., Pas, E., & Yinger, J. (2008). The determinants of teacher attrition in upstate New York. *Public Finance Review*, 36(1), 112-144.
- Rutledge, S., Harris, D., Thompson, C., & Ingle, W.K. (2008). Certify, blink, hire: An examination of the process and tools of teacher screening and selection. *Leadership and Policy in Schools*, 7(3), 237-263.

- Ryan, A.M, & Schmit, M. (1996). An assessment of organizational climate and P-E fit: A tool for organizational change. *The International Journal of Organizational Analysis*, 4(1), 75-95.
- Smith, T., & Ingersoll, R. (2004). Reducing teacher turnover: What are the components of effective induction? *American Educational Research Journal*, 41(3), 681-714.
- Tak, J. (2011). Relationships between various person-environment fit types and employee withdrawal behaviors: A longitudinal study. *Journal of Vocational Behavior*, 78(2), 315-320.
- Texas Center for Educational Research. (2000). *The cost of teacher turnover*. Austin: Texas State Board for Educator Certification. Retrieved February 21, 2011 from: <http://www.tcer.org/research/index.aspx>.
- Theobald, N. (1990). An examination of the influence of personal, professional, and school district characteristics on public school teacher retention. *Economics of Education Review*, 9(3), 241-250.
- Tziner, A. & Birati, A. (1996). Assessing employee turnover costs: A revised approach. *Human Resource Management Review*, 6(2), 113-122.
- vanViannen, A. (2005). A review of person-environment fit research: Prospects for personnel selection. In A. Evers, N. Anderson, & O. Voskuil (Eds.), *Handbook of personnel selection* (pp. 419-439). New York: Blackwell.
- Watlington, E., Shockley, R., Guglielmino, P., & Felsher, R. (2010). The high cost of leaving: An analysis of the cost of teacher turnover. *Journal of Education Finance*, 36(1), 22-37.
- West, B. (2008). Statistical and methodological issues in the analysis of complex sample survey data: Practical guidance for trauma researchers. *Journal of Traumatic Stress*, 21(5), 440-447.
- West, B. (2009). *Issues in the Analysis of Complex Sample Survey Data: A CSCAR Workshop*. Ann Arbor, MI: Center for Statistical Consultation and Research.

CHAPTER 3

Fit with school and fit with colleagues: Evidence of the impact of a “good fit” on teacher mobility and attrition in the Michigan Indiana Early Career Teacher Study

The previous chapter took advantage of a large, nationally representative sample of teachers to explore how fit impacted teacher retention for teachers with varying years of teaching experience. Chapter 3 shifts focus slightly, emphasizing the role of fit in the retention of *early career* teachers (ECTs). Teacher turnover has been found to be particularly pronounced in the earliest years of teaching (see, e.g., Smith & Ingersoll, 2004). This study explored how assessments of fit with the organization (P-O fit) and fit with a close group of colleagues (P-G fit) influenced the retention of early career teachers. While P-G fit is a measurement of how much an individual matches with the group of close colleagues, P-O fit is somewhat broader in scope, emphasizing the congruence between the overall goals and values of the individual and the organization.

Person-organization fit is conceptualized as congruence between the values of a person and an organization (Chatman, 1989; Kristof-Brown et al., 2005). While for Chatman (1989), fit measures primarily focused on value congruence, subsequent studies of P-O fit operationalized three additional manifestations of P-O fit: shared goals, common preferences for systems and structures, and similar preferences for work climate (Kristof, 1996). High P-O fit has been related to reduced turnover (Kristof-Brown et al., 2005).

At the most basic level, P-G fit is defined as compatibility between co-workers (Adkins, Ravlin, & Meglino, 1996). To date, P-G fit research has been limited, and has tended to focus on the psychological or attitudinal compatibility of work team members in teams (Ferris, Youngblood, & Yates, 1985; Kristof-Brown et al., 2005). An early experimental study found that

when group members had high degrees of attitude similarity, perceived group attractiveness and cohesiveness were higher (Good & Nelson, 1971). There is evidence that P-G fit has a moderate, positive correlation with job satisfaction and organizational commitment, while it is negatively correlated with intent to quit. Further, prior research on P-G fit suggests that the degree of similarity between individuals and work team members may be especially important in assimilation and retention for new organization members (Ferris, Youngblood, & Yates, 1985).

Recent research on teacher retention

This study seeks to understand why teachers leave the teaching profession or leave their teaching positions, but remain in teaching. There is extensive research regarding factors that play a role in this type of teacher mobility, and it tends to fall into two broad categories: research focusing on issues related to teacher labor markets, and research focusing on organizational characteristics.²⁹

Features of the teaching position appear related to teacher retention. Multiple studies document teachers' preferences for teaching positions in schools that are physically close to their hometowns, or at least similar to the types of schools they attended as children (Boyd et al., 2005; Cannata, 2010). Another factor commonly cited in teacher retention studies is the demographic composition of the student body. As teachers acquire additional experience, they are frequently observed to move away from urban schools serving high percentages of low-income or minority students to suburban schools serving predominantly white students (Boyd et al., 2010; Johnson & Birkeland, 2003; Guarino, Santibanez, & Daley, 2006; Hanushek, Kain, & Rivkin, 2002; Smith & Ingersoll, 2004). Further, teachers are observed moving away from low-

²⁹ There have been two recent, in-depth studies of the literature on teacher retention. Guarino, Santibanez, and Daley (2006) conducted a very thorough literature review of close to 50 empirical studies, and Borman and Dowling (2008) conducted a meta-analysis incorporating results from more than 30 studies. As such, I summarize high level findings here, but refer readers to these two rich studies for additional details.

performing schools, and are more likely to stay at high-performing schools. For example, when Florida introduced a new school accountability system, Feng, Figlio, and Sass (2010) found that teachers in schools whose accountability grade dropped unexpectedly were almost 11 percent more likely to change schools than teachers in schools whose accountability grade stayed the same.³⁰

Higher salaries positively influence retention (Guarino et al., 2006; Imazeki, 2005) particularly when teaching salaries are higher than non-teaching alternatives in the same geographic vicinity (Ondrich, Pas, & Yinger, 2008). However, there is some evidence that targeted financial bonuses can help keep teachers, particularly those with more experience, at low-income, low-performing schools, reversing the trend of moving away from challenging environments (Clotfelter, Glennie, Ladd, & Vigdor, 2008).

Teachers' personal characteristics are also frequently associated with turnover (Borman & Dowling, 2008; Guarino et al., 2006). The age of the teacher is frequently found to be related to turnover, such that both younger and older teachers are more likely than others to leave, producing a "U-shaped" curve (Guarino et al., 2006). Additionally, women are more likely to leave teaching than men, as are White teachers when compared to minority teachers, and married teachers when compared to non-married teachers (Borman & Dowling, 2008). Teachers with stronger credentials, such as prior test scores or attendance at more selective colleges, were also observed to leave teaching at higher rates (Guarino et al., 2006). Further, high school teachers are assumed to have more non-teaching alternative job prospects than elementary school teachers, and thus likely to be at higher risk for attrition (Theobald, 1990).

³⁰ This finding was exacerbated by how low-performing the school was. Teachers in schools that dropped to a grade of "F" were 42 percent more likely to leave.

Some existing research has looked not at demographic characteristics of the school or the salary and benefits associated with the teaching position, but at organizational factors and working conditions related to retention. Ingersoll (2001), using data from the Schools and Staffing Survey, found that teachers working in organizations where involvement in decision making was high were less likely to leave their schools. Boyd et al. (2010) found similar patterns when studying New York City teachers. There is also evidence that administrative support is critical in teacher retention (Borman & Dowling, 2008; Boyd et al., 2010; Ingersoll, 2001; Pogodzinski, *under review*); further, teachers appear less likely to leave schools with principals who have been judged to be highly effective (Grissom, 2011). These findings suggest that strong administrators who are able to involve teachers in collectively shaping the work environment can play a role in increasing retention.

The unique position of early career teachers in new organizations

Early career teachers are not only new to their schools, they are new to the teaching profession as a whole. As such, school leaders and district officials hope that expensive hiring efforts translate into a long-term relationship between teacher and school, despite evidence that early career teachers are particularly likely to leave the profession (Ingersoll, 2001; Smith & Ingersoll, 2004). This particularly difficult time for new teachers has been characterized as “a ‘sink-or-swim,’ ‘trial-by-fire,’ or ‘boot camp’ experience” (Smith & Ingersoll, 2004, p. 682).

Indeed, research across a variety of professions has indicated that “the period of early entry is one of the most critical phases of organizational life,” when new employees form quick impressions that have a lasting impact on their attitudes and behaviors (Kammeyer-Mueller & Wanberg, 2003, p. 779). Pre-entry knowledge (i.e., knowledge gained through realistic job previews or other opportunities to learn about the school environment), a “proactive” personality,

and the socialization efforts of co-workers all play a role in new employees' confidence in their ability to handle tasks related to the job, and, ultimately, organizational commitment (Kammeyer-Mueller & Wanberg, 2003).

One way that educational policy has attempted to ease organizational entry for new teachers is through the implementation of extensive mentoring and induction programs. However, evidence regarding the role of mentoring and induction in teacher retention is mixed. Smith and Ingersoll (2004), using data from the Schools and Staffing Survey (SASS), found that one aspect of socialization- forming a relationship with a helpful mentor- can reduce the likelihood of new teacher turnover. However, Kardos and Johnson (2010) found that the match between mentors and mentees is frequently poor. This finding is similar to that of Youngs (2007), who demonstrated that mentor selection and assignment (i.e., matching mentors and mentees based on common grade level assignments and familiarity with the curriculum) strongly influenced the induction experience of beginning teachers in urban Connecticut districts by directly affecting the focus of the mentor-mentee relationship, and that district policy played a role in the quality of the mentoring relationship experienced by new teachers. Grossman and Thompson (2004) further emphasized the important role of the district in shaping beginning teachers' experiences, demonstrating that policies "help beginning teachers learn what to worry about and how to get help" (p. 281).

A recent large scale, longitudinal, randomized comparison of "high quality" and more typical induction programs demonstrated that teachers in the high quality induction programs met more frequently with their mentors than teachers in more typical programs, and more frequently received assistance in terms of developing instructional goals and strategies, as well as assessing students (Glazerman et al., 2008). However, somewhat surprisingly, this study did not

find any statistically significant differences between the teachers in the different types of induction programs in terms of classroom practices or teacher retention (Glazerman et al., 2008; Glazerman et al., 2010).

Some qualitative studies have helped highlight mechanisms by which induction programs might improve organizational and group fit, thus helping to mitigate the propensity of new teachers to exit the profession early in their career. New teachers have indicated that collegial interactions with people at their school site influenced their decision to remain teaching at their school (Johnson & Birkeland, 2003). Facing a workplace that was not organized to support newcomers, these teachers experienced low levels of fit, and were thus more likely to leave the school. Comments from these new teachers shed light on what it was like to work in an environment that did not meet their expectations. For example, one teacher who quit told the researchers, “I’ve been a professional...I know what it [a supportive work environment] is, and this is not it...” (Johnson & Birkeland, 2003, p. 595).

While many studies of early career teachers to date have focused on the role of the formal mentor, the present study took a slightly different approach, considering the degree to which early career teachers fit in with the group of close colleagues they form at their school. To do this, we took advantage of the availability of data from both the early career teachers as well as their close colleagues, to form a richer picture of how this social network shaped the new teacher experience. Social networks have a powerful influence on information sharing, gathering resources, setting norms and expectations, and enacting sanctions for unacceptable behavior. In schools, “actors inform one another, persuade one another, and exert social pressure through their relationships. Thus by conveying attitudes and information these relationships shape individual actions that accumulate in school decision-making” (Frank & Zhao, 2005, p. 282).

There is strong evidence that teachers lack clear, accepted guidelines regarding appropriate pedagogical strategies. Consequently, the ties that they form with colleagues in their schools and subject-specific departments may have a powerful role in developing a shared technical culture and shaping instructional practice (Bidwell, 2001; Rowan, 1990; Talbert & McLaughlin, 1994), or, in Chatman's (1989) terms, providing information about the type of behaviors that are appropriate for members of that organization. These subgroups are often the result of informal ties, and are useful for gathering information in order to make sense of competing demands in the organizational environment (Frank & Zhao, 2005).

People impact their environments, while environments also affect people (Chatman, 1989). It may be the case that some teachers, because of specific personal beliefs regarding pedagogical practices or goals for education, will be better suited to particular environments that rely on systems of control that serve to support these beliefs. A mismatch between the organizational or group environment could negatively impact early career teachers, ultimately resulting in turnover. Bidwell, Frank, and Quiroz (1997) provided evidence that the type of workplace control systems evident in secondary schools were related to the type of teachers present in that school, and played a strong mediating role in how teachers approached the instructional process. Viewed from a fit lens, this finding might illustrate that teachers who shared common preferences for work systems or work climates with the school in which they taught were supported in the eventual enactment of specific pedagogical practices they valued, while other teachers may have faced an environment that demanded different practices than they preferred. In fact, Bidwell et al. (1997) hypothesized that the apparent relationship between teacher type and workplace control system might be observed because teachers self-selected into schools that offered the type of workplace controls that met their expectations for a work

environment. This type of “self-selection and selective recruitment may stand in a complementary relationship to the effects of the setting on beliefs and conduct” (p. 300), which echoes Schneider’s (1987) attraction-selection-attrition framework or Chatman’s (1989) interactional approach to fit. Extending Bidwell et al. (1997), one way in which the present study operationalized fit was by focusing on the pedagogical strategies used by early career teachers and their group of close colleagues, determining how a good match between the two relates to teacher retention.

Method

Data and Sample.

The Michigan Indiana Early Career Teacher Study was a multi-year study of early career teachers’ professional relationships and induction experiences. I relied on the survey data from the study to explore the relationship between early career teachers and their colleagues. A sample of early career teachers was surveyed during the 2008-2009 academic year, with a mobility survey following in spring of 2010. Additionally, the mentors and close colleagues of the early career teachers in the study were also surveyed in 2008-2009.

District sample. This study included five Michigan districts and five Indiana districts in 2008-2009. In selecting the district sample, the goal was to recruit medium-to-large districts in both states that a) served varying student populations with regard to race/ethnicity and socioeconomic status and b) had significant numbers of early career teachers. Because of declining enrollments and tight fiscal budgets, many districts in Michigan and Indiana that served large numbers of low-income and racial minority students did not meet the other criterion for inclusion in this study because they did not hire new teachers for the 2008-2009 school year (Pogodzinski, 2010).

Early career teacher sample. Teachers who taught the core-content areas (math, science, social studies, English/language arts, and general elementary) in grades 1-8, and were in their first three years of the teaching profession were invited to participate in the study in 2008-2009. Participation included the completion of a fall and spring survey. The surveys were administered in both electronic and paper form. The current analysis used data from the spring survey only.

In an effort to increase participation rates, a five-contact approach was used for each survey administration (Dillman, 2007). A pre-notice letter was sent a week prior to mailing the survey (which included a cover letter and consent form). A two-dollar bill was included in the next mailing (to help increase participation) which included a link to the online survey. Research has shown that including a token incentive (such as a two-dollar bill) improves response rates 19-31 percent over personalized mailing alone (Lesser et al., 1999). A thank you/reminder post card was sent a week later, and a reminder email with the link to the online survey was sent near the survey return deadline. If a prospective study participant did not complete the survey online, they received a paper copy of the survey. Teachers were compensated with a gift card, for use at a bookstore, for completing and returning a survey.

The surveys asked about teachers' instructional practices; the frequency and substance of their interactions with their mentors and colleagues; their perceptions of relations within their schools; their work conditions; and their future career plans. The spring surveys also included items regarding teacher background, such as degrees, certification, and college attended.

Follow-up mobility survey. Early career teachers who completed the fall and/or spring surveys were also asked to complete a follow-up mobility survey in April 2010. Based on district personnel rosters, we determined if our early career teachers had remained in their 2008-2009 school placements ("stayers"), switched schools within the district ("movers"), or left teaching

(“leavers”). Stayers were sent one version of the mobility survey, while movers/leavers received a version that included all the questions asked of stayers, as well as specific questions about the reason for leaving the 2008-2009 placement school. This follow-up mobility survey provided the data used in the calculation of the P-O fit measure, and contributed two individual survey items that make up one of the P-G fit measures. Teachers answered these questions retrospectively, providing information in Spring 2010 about fit with the position they held the 2008-2009 academic year. They also rated specific features of their 2008-2009 school placement, as well as the same features relative to whatever job they had in the 2009-2010 academic year (whether they worked as a K-12 teacher, worked in another position in education, or worked outside of the field of education).

Colleague sample. Early career teachers “nominated” up to eight close colleagues on their fall survey, and those close colleagues were also asked to complete a survey in the spring. The content of the colleague survey was very similar, asking teachers questions regarding instructional practices, relationships within the school, and working conditions.

School characteristics. Characteristics of the 116 unique schools in which early career teachers were placed were obtained from the National Center for Education Statistics’ Common Core of Data (CCD). Data on the demographic makeup of the student body (percent eligible for free or reduced price lunch; percent of minority students), urbanicity, number of full-time equivalent staff, and student-teacher ratio were obtained for the 2008-2009 school year, and merged on to the early career teacher data file.

Measures.

Below, I summarize the key measures that are used as predictors of teacher retention in this analysis.³¹

Mobility Measure. From the perspective of an individual school, whether a teacher leaves the profession entirely or switches schools does not particularly matter; for the school, the loss of that teacher still represents a position that needs to be filled (Ingersoll, 2001). However, from the perspective of a school district, complete attrition from the profession may be more problematic than teachers moving laterally across schools within the district. As such, the present analysis distinguished between complete attrition from teaching and switching schools. The dependent variable in this analysis was a three-category variable representing the teacher's observed employment status at the time of the TFS: switching schools ("movers"), leaving teaching ("leavers") or remaining in the same school ("stayers"). This conceptualization of the dependent variable is fairly common in studies of teacher retention (see, e.g., Ingersoll, 2001; Boyd et al., 2010).

Fit measures.

Objective fit. Early career teachers and their group of close colleagues completed a series of survey items regarding the type of instructional strategies they used in teaching English/Language Arts, which provided the opportunity to create an objective fit measure by assessing the congruence of the responses of these multiple survey respondents. The set of items, derived from Bidwell, Frank, and Quinoz (1997), provided the basis for categorizing teachers into three broad instructional orientations for English/Language Arts: "basic skills," "lower order comprehension skills," or "higher order comprehension skills." These survey items, which asked

³¹ Chapter 1 provides more detail on several alternative approaches to measuring P-O and P-G fit, including measures that are not used in Chapter 3.

about the frequency of use of a variety of specific instructional practices, were on a 6-point scale (0=“Never;” 1= “Less than once a month;” 2= “1-3 times a month;” 3= “1-2 times per week;” 4= “3-4 times per week;” 5= “Every day”). Following Pogodzinski (2009), I computed the correlation alpha between the items in each category,³² and then calculated composite variables representing the mean value for each ECT and their colleagues across the three instructional orientations. For each teacher (both ECTs and colleagues), I then determined which instructional orientation was more prevalent than the others by designating the highest mean value to represent that teacher’s predominant instructional orientation. Every ECT was assigned an instructional orientation in this way.

In addition, I looked across the instructional orientations of the group of close colleagues, and similarly selected the highest mean value across all group members to represent the predominant instructional orientation used by group members.³³ Finally, I created a simple dummy variable coded “1” when the ECT’s instructional orientation matched the predominant orientation of the group of close colleagues, and “0” when it did not match; this variable represents the objective P-G fit measure used in this analysis of teacher retention.

Subjective fit. Two subjective fit measures were created, and were described in significant detail in Chapter 1. Briefly, the first measure of subjective fit incorporated items related to P-O fit from the Teacher Mobility Survey. I used exploratory factor analysis with maximum likelihood (ML) extraction methods and oblique (promax) rotation to create a P-O fit factor. Second, I used a similar approach to create a P-G fit factor, using a series of items related to

³² See Appendix B in Chapter 1 for the complete list of survey items in each of the three categories. While the survey items differed somewhat for Elementary and Middle School teachers, after creating the scales separately, the process for assigning teachers to one of the three instructional orientations was the same.

³³ In cases where the group means in multiple categories were identical, I randomly selected one instructional orientation to represent the group.

group fit from both the spring Teacher Survey and the Teacher Mobility Survey.³⁴ To make it easier to interpret the results, I standardized these factors to have a mean of 0 and a standard deviation of 1.

Other control variables. Given existing research on how teachers' personal characteristics and job characteristics influence retention, the analysis included a host of control variables recommended by previous research. I included teacher-level dummy variables such as gender, race, union membership, and holding a masters degree, plus continuous variables indicating the number of years teaching at the current school and class size. Finally, I included a measure of teacher commitment to their current school.³⁵

I also included school-level variables capturing the demographic makeup of the student body (percent eligible for free or reduced price lunch; percent of minority students), urbanicity, number of full-time equivalent staff, and student-teacher ratio (Borman & Dowling, 2008; Guarino et al., 2006).

Analysis: How fit impacts teacher mobility

This analysis tested how P-O and P-G fit measures impacted the mobility of the early career teachers in the study:

Research Question 1. How is fit with the school related to the likelihood of switching schools or leaving the profession?

In response to this research question, I hypothesized the following:

³⁴ See Appendix B in Chapter 1 for the complete list of survey items used in creating the subjective fit measures.

³⁵ Commitment was measured using the following survey item: "I would prefer to continue teaching in this school next year." The item used the following five-point scale: strongly disagree; disagree; agree; somewhat agree; not sure.

- Hypothesis 1. The higher the P-O fit, the lower the likelihood of switching schools or exiting the profession. Being a good match for the school was expected to keep teachers in the profession, in the placement site where they experienced strong fit.

Research Question 2. How is fit with the group of close colleagues identified by the ECT related to the likelihood of switching schools or leaving the profession?

Two hypotheses relating fit to retention were proposed:

- Hypothesis 2a. The lower the P-G fit – i.e., the more a teacher’s instructional approach is “misaligned”³⁶ with the pedagogical strategies predominantly used by their close colleagues – the more likely the teacher would be to switch schools.
- Hypothesis 2b. Low P-G fit (misalignment with colleagues) would not be significantly related to leaving teaching entirely; teachers who did not fit well with their colleagues were expected to seek out a new school rather than leaving teaching entirely.

I used the multinomial logistic regression model presented by Menard (2002) to consider the odds of switching schools or leaving the profession, as compared to remaining in the first observed teaching assignment, and adjusted standard errors to account for the clustering of individual teachers within the same school. The resulting model was as follows:

$$g_h = (X_1, X_2, \dots, X_k) = e^{(a_h + b_h X_1 + b_h X_2 + b_h X_3 + b_h T_3 + b_h S_3)} \quad (2.1)$$

for $h = 1, 2$

where the reference category was $h_0=0$ (remains in teaching), X_1 was a term representing teacher P-O fit, X_2 was a term representing *objective* teacher P-G fit, X_3 was a term representing

³⁶ Kalleberg (2008) calls this “mismatch,” which he defines as a “lack of fit” (p. 24).

subjective P-G fit, ³⁷ T was a vector of other teacher characteristics, and S was a vector of school characteristics.

The teacher characteristics included in this model were as follows: dummy variables representing teacher gender, race, union membership, and possession of master's degree; number of students taught; number of years teaching at the current school; a measure of commitment to the current school; and grade level.

The school characteristics included here were as follows: urbanicity; percent of minority students; percent of students eligible for free/reduced price lunch; number of full-time equivalent staff; and student-teacher ratio.

The probability that Y was equal to any value other than 0 (i.e., teachers switch schools or leave the profession) was

$$(Y = h | X_1, X_2, X_3) \quad (2.2)$$

$$= \frac{e^{(a_h + b_h X_1 + b_h X_2 + b_h X_3 + b_h T_4 + b_h S_5)}}{1 + \sum_{h=1}^{M-1} e^{(a_h + b_h X_1 + b_h X_2 + b_h X_3 + b_h T_4 + b_h S_4)}}$$

for $h = 1, 2$

³⁷ Note that I separately modeled the effects of P-O and P-G fit, with the two unique P-G fit measures being modeled separately. The final model included all three fit measures. Kristof-Brown et al. (2002) demonstrate that employees experience significant and independent effects of P-O, P-J, and P-G fit simultaneously. Tak (2011) similarly points out that employees experience these multiple types of fit simultaneously in the course of their work experience, so it makes sense to look at the effect of one type of fit controlling for the other when possible. While the magnitude of the results is slightly smaller in the latter approach, the directionality is consistent.

and for the excluded category, $h_0=0$ (teachers remain in first teaching assignment)

$$P(Y = h|X_1, X_2, X_3) \quad (2.3)$$

$$= \frac{1}{1 + \sum_{h=1,2}^{M-1} e^{(a_h + b_h X_1 + b_h X_2 + b_h X_3 + b_h T_4 + b_h S_4)}}$$

for $h=0$

Results

Using the previously described fit measures, I addressed two primary research questions related to the role of fit in teachers' retention decisions. Below, I first present descriptive results, and then discuss the relationship between fit and teacher mobility.

Descriptives

A total of 269 early career teachers completed the spring MIECT survey, for a response rate of 95.1%. In addition, 203 early career teachers completed the Teacher Mobility Survey in spring of 2010, for a response rate of 74.5%.³⁸

The early career teachers nominated 721 mentors and close colleagues on the spring survey, of which 435 completed the mentor/colleague survey, for a response rate of 60.3%.³⁹

Complete descriptives for the survey respondents are reported in Tables 23 and 24. Both the early career teachers and their close colleagues were predominantly white (91% and 92%, respectively), female (78% and 84%, respectively), and union members (82% and 87%, respectively). The majority of close colleagues had a master's degree (69%), and had been teaching in their 2008-2009 school for just over 10 years. The early career teachers had

³⁸ Recall that completers from both the fall and spring 2008-2009 survey cycles were sent the Teacher Mobility Survey, meaning that the response rate for the latter survey was based on a different number of potential respondents than the response rate for the spring 2009 teacher survey.

³⁹ While these calculations are based on the number of mentors and close colleagues responding to the survey, note that only responses from 389 close colleagues are included in this analysis.

obviously spent less time in their current schools (on average, just over 2 years), and only about 16% had a masters degree.

The majority of early career teachers in this study taught in urban schools (64%). On average, just less than half of the students in these schools were minorities (47%), and about 60 percent qualified for free or reduced priced lunch. On average, each school in the study employed about 37 teachers, and had a student teacher ratio of about 17 to 1.

In terms of English/Language Arts instructional orientation, which was used to calculate the objective P-G fit measure, early career teachers differed significantly from their group of close colleagues ($X^2(4, n=92)=15.27, p<0.01$). The majority of early career teachers (about 53%) reported a primarily “lower order comprehension” approach, with about 30 percent using a “basic skills” approach and about 18 percent using a “higher order comprehension” approach. The close colleagues were about evenly split between a “lower order comprehension” approach (about 48%) and a “basic skills” approach (46%); only five percent reported using a “higher order comprehension” approach. Misalignment between early career teachers and their close colleagues was most evident for those who did not use the “basic skills” approach, as illustrated in Table 25. While 72 percent of ECTs with a “basic skills” orientation worked with a group of close colleagues sharing this approach, more than 80 percent of the small group of ECTs with a “higher order comprehension” orientation experienced misfit with their group of close colleagues.

Most of the teachers in our early career sample remained in their school between the 2008-2009 and 2009-2010 academic years. As reported in Table 26, almost 78 percent of the

early career teachers were classified as “stayers,” with about 11.5% designated “movers,” and about 10.7% “leavers.”⁴⁰

Regression Results

With a clearer picture of survey respondents, I was able to build a series of multinomial logistic regression models, using the *mlogit* command in STATA with the *cluster* option to generate robust standard errors accounting for clustering of teachers within schools. These models assessed the impact of subjective P-O and P-G fit, as well as objective P-G fit, on early career teachers’ retention decisions. I began by looking at the impact of each fit measure separately, with a variety of teacher and school covariates. These results are reported in Table 27.

How is fit with the school related to the likelihood of switching schools or leaving the profession?

Person-organization fit was not a significant predictor of teacher retention. While not significant, the relationship between P-O fit and retention was actually in the opposite direction of the hypothesized relationship; as P-O fit increased, it actually appeared that after controlling for teacher and school characteristics, early career teachers were about 22 percent *more* likely to switch schools rather than remain in their 2008-2009 academic year placement ($RRR=1.227$,

⁴⁰ Because of the small number of teachers in the “mover” and “leaver” categories, there is some concern that the regression results which follow would not be replicated if a larger sample with more variation was available. As an alternative to the multinomial logistic regression, where mobility is expressed as a three category outcome, I ran all models as logistic regressions, with a dichotomous outcome variable coded “1” if an early career teacher either switched schools *or* left the teaching profession. The results for the fit measures were generally similar, but the AIC values for these logistic regressions were larger than the AIC values for the multinomial logistic regressions, and the results reported below suggest that much of the relationship between fit and mobility in this sample was related to the teachers who left entirely versus those who switched schools. As such, I choose to retain the three-level dependent variable as opposed to this alternative dichotomous outcome, although concerns about replicability can only really be tested with a larger, future sample that provides more variation in terms of teacher mobility.

$p > 0.10$), and were almost 80 percent *more* likely to leave teaching all together ($RRR = 1.796$, $p > 0.10$).

How is fit with the group of close colleagues related to the likelihood of switching schools or leaving the profession?

The subjective measure of person-group fit was a significant predictor of teacher retention, although only for the likelihood of leaving teaching entirely. For every one standard deviation increase in the P-G fit measure, early career teachers were 57 percent less likely to leave teaching all together ($RRR = 0.443$, $p < 0.05$).

The objective measure of person-group fit was also significantly related to retention. Early career teachers whose predominant instructional orientation matched with their group of close colleagues were 64 percent less likely to leave teaching than those whose instructional orientation was misaligned with the orientation of their close colleagues ($RRR = 0.339$, $p < 0.05$). There was a similar relationship with the likelihood of switching schools, although this result was not statistically significant ($RRR = 0.608$, $p > 0.10$).

After considering these separate models of P-O fit and P-G fit, I also created a combined model (model (4) in Table 28), in an attempt to see if P-O fit would be a more valuable predictor of retention status after controlling for P-G fit and other teacher and school and characteristics, and also how its inclusion impacted the predictive power of the P-G fit factors demonstrated in Table 27. Further, I wanted to see what would happen when both subjective and objective P-G fit measures were included in a model simultaneously⁴¹ (model (5) in Table 28).

After controlling for group fit and the other teacher and school characteristics, P-O fit continued to exhibit a non-significant relationship with mobility, and once again the directionally

⁴¹ The relationship between these two P-G fit measures was described in much more detail in Chapter 1, but it is worth noting here that introducing both measures into the same model did not pose any problems related to multicollinearity.

of the relative risk ratios suggested that teachers with above-average P-O fit were *more* likely to leave. However, after controlling for this measure of P-O fit, the relationship between P-G fit and leaving teaching was still significant, and in the expected direction. For every one standard deviation increase in subjective P-G fit, teachers were 58 percent less likely to leave teaching, and those teachers whose instructional approach matched their group of close colleagues were about 83 percent less likely to leave teaching than those whose approach did not.

These relationships looked very similar after taking P-O fit out of the combined model. As seen in model (5) in Table 28, including subjective and objective P-G fit measures while also controlling for teacher and school characteristics still suggested that the better the group fit, the less likely it was that early career teachers would exit the profession.

In addition to P-G fit, commitment to the school also notably contributed to a decline in the odds of either switching schools or leaving teaching, across a variety of model specifications. Further, the longer an early career teacher remained at his or her school, the less likely it was that he or she would switch to a new school. Finally, for each additional student taught, there was a slight decrease in the odds that the early career teacher left the profession.

Several models have been presented, and in looking across these various models, it appeared that the measure of P-O fit created for this analysis did not contribute much useful information about the mobility of early career teachers in this sample. Model fit statistics suggested that the best model to explain teacher mobility was model (5) from Table 28, which offered the lowest Akaike Information Criteria value as well as the lowest -2 log likelihood value, and thus emerged as the most desirable model (Akaike, 1987). This model also showed the strongest relationship between both objective and subjective P-G fit and teacher mobility.

Discussion

The present study used new measures of person-organization and person-group fit in an attempt to understand how these factors related to early career teacher mobility. This study was unusually positioned to employ not only a subjective fit measure, but also an objective fit measure that incorporated information from multiple respondents from the same school.

The P-O fit measure was constructed using individual survey items that clearly and directly addressed the multiple manifestations of organizational fit: complementary values, goals, and a working environment that satisfied the employee. Perhaps because these items have been used in other studies to demonstrate the positive relationship between high levels of organizational fit and desirable outcomes such as decreased intent to quit or decreased turnover, it was somewhat surprising that Hypothesis 1 was not supported. Contrary to expectations, being a good match for the school did not appear to keep new teachers in the profession, nor did it significantly increase their likelihood of remaining at the school site where they experienced strong fit.

The reason for this unexpected result is unclear, although there are potentially two explanations. The first may be related to research design; teachers were asked to retroactively rate their level of P-O fit through the Teacher Mobility Survey, which was conducted during the school year that followed the point at which decisions about leaving teaching or switching schools were made. Teachers who were still teaching at the same school at the time they completed the mobility survey may have inflated their perceptions of fit because they were still in that environment. However, those ECTs who had moved to a new environment- whether working in a new school, a non-school organization, or out of the work force- may have downgraded their perceptions of fit after being out of that environment for nearly a year. Future

research should integrate these P-O fit questions into survey instruments presented to teachers prior to retention decisions, and reassess the relationship between P-O fit and mobility.

The second reason may be that person-organization fit is not as salient for individuals with less work experience or exposure to only a small number of employers (Kristof-Brown, Jansen, & Colbert, 2002). It is possible that the early career teachers in our study, who on average had been in their schools for about two years, were simply less responsive to organizational cues than teachers with more experience. Early career teachers have likely had less exposure to a variety of different organizations, and thus may not have been as sensitive as more experienced workers to how different types of organizational environments match up with their goals and expectations (Kristof-Brown et al., 2002). Further, early career teachers were still being influenced by socialization practices that kept organizational goals and values “top of mind” as they formed their own professional goals and values. Multiple studies show that socialization strategies influence perceptions of fit and newcomers’ internalization of organization goals and values (Bauer, Morrison, & Callister, 1998; Cable & Parsons, 2001; Chatman, 1991). In other words, early career teachers’ personal goals and values closely reflected what they perceived as the organization’s goals and values, whether or not that was actually the case. Even teachers who stated that their goals and values closely matched the organization were actually still making sense of their own personal goals and values, so the measurement of P-O fit for these early career teachers may be tenuous. Perhaps this uncertainty comprised the reliability of our survey measures, thus leading to the unexpected and counter-intuitive findings related to P-O fit and mobility.

Despite the disappointing findings related to P-O fit, there were significant relationships between P-G fit and teacher mobility, such that teachers who expressed higher levels of P-G fit

were less likely to exit the profession. However, even with these significant findings, both Hypothesis 2a and 2b were rejected. With regards to Hypothesis 2a, alignment between an early career teacher's instructional strategies and their close colleagues' instructional strategies was not significantly related to the likelihood of switching schools, though in models (3), (4), and (5), the relationship was in the expected direction. With respect to Hypothesis 2b, there was no evidence that early career teachers responded to low P-G fit by seeking out a new school with more complementary colleagues; the only observed relationship indicated that lower P-G fit seemed to be related to increased odds of leaving teaching completely.

Because these were early career teachers, perhaps it should not be surprising that P-G fit was significantly related to exiting teaching entirely, while not significantly related to switching schools. It could be the case that because of the teachers' contracts in these districts, early career teachers had fewer opportunities to switch schools, as these opportunities for movement were contractually reserved for more experienced teachers. With existing research demonstrating that early career teachers are at high risk for attrition (e.g., Smith & Ingersoll, 2004), it may be the case that if it was difficult to seek out a new, perhaps better fitting, collegial environment, new teachers chose an "all or nothing" approach to early retention decisions. If teaching was not working out for them because their instructional strategies seemed to be misaligned with those used by their closest colleagues, or their professional relationships seemed to be out of sync, perhaps they made the assessment that a new school would not help them experience more success in the classroom.

Appendix

Appendix D

Table 23

Characteristics of Early Career Teachers and Their Close Colleagues

	Mean	
	Early career teachers	Close colleagues
Minority	0.09	0.08
Female	0.78	0.84
Union member	0.82	0.87
Masters degree	0.16	0.69
Commitment: Strongly agree would prefer to teach in the same school next year	0.63	0.65
Teaches elementary	0.58	0.64
Total number of students	62.25	51.93
Total years teaching in current school	2.14	10.25
Number of observations	269	389

Source: MIECT Spring 2009 surveys

Table 24
Characteristics of Early Career Teachers' Schools

	Mean
Urban	0.64
Rural ^a	0.07
Percent of minority students	0.47
Percent of students receiving free/reduced price lunch	0.59
Full time equivalent staff	36.56
Student-teacher ratio	16.83
Number of schools	116

^aSuburban is the reference group.

Source: NCES Common Core of Data

Table 25
(Mis)alignment of instructional orientation for early career teachers and close colleagues

	Close colleagues		
	n	n	n
	(%)	(%)	(%)
ECTs	Basic skills	Lower Order	Higher Order
Basic Skills	18	7	0
	72.00	28.00	0.00
Lower Order	23	21	3
	48.94	44.68	6.38
Higher Order	4	13	4
	19.05	61.9	19.05

Source: MIECT Spring 2009 Teacher Surveys

Table 26

Mobility of Early Career Teachers

	n ^a	%
Stayer	204	77.86
Mover	30	11.45
Leaver	28	10.69

a. The status of seven early career teachers could not be determined based on rosters or records available in spring of 2010.

Source: District-provided school rosters/
personnel directories

Table 27
Results of Multinomial Logistic Regressions with Each Fit Measure

	(1) P-O fit only				(2) Subjective P-G fit only				(3) Objective P-G fit only			
	Move	Leave	Move	Leave	Move	Leave	Move	Leave	Move	Leave	Move	Leave
Teacher fit												
Person-organization fit	0.89	1.03	1.23	1.80								
	(0.20)	(0.35)	(0.52)	(0.82)								
Subjective person-group fit					0.72	0.59**	1.18	0.43**				
					(0.22)	(0.13)	(0.51)	(0.18)				
Objective person-group fit									0.79	0.43*	0.61	0.34**
									(0.33)	(0.20)	(0.34)	(0.18)
Teacher characteristics												
Minority			1.47	0.00			1.68	0.00** *			2.32	0.85
			(2.30)	(0.00)			(2.54)	(0.00)			(2.16)	(0.94)
Female			2.66	2.27			2.46	1.62			3.29*	1.54
			(2.36)	(3.18)			(1.97)	(2.44)			(2.19)	(1.07)
Union member			0.00***	1.31			0.00** *	0.98			3.85	0.85
			(0.00)	(1.17)			(0.00)	(1.045)			(4.491)	(0.570)
Masters degree			3.50	0.69			2.70	0.96			2.18	0.51
			(2.67)	(0.60)			(2.03)	(0.97)			(1.39)	(0.35)

Table 27 (cont'd)

Commitment to school	0.28***	0.17***	0.32***	0.20**	0.44**	0.37***
	(0.12)	(0.09)	(0.12)	(0.13)	(0.15)	(0.12)
Teaches elementary ^a	1.38	0.00***	1.18	0.00***	2.13	1.40
	(1.70)	(0.00)	(1.45)	(0.00)	(2.31)	(1.31)
Total number of students	1.00	0.96*	1.00	0.95*	1.01	1.00
	(0.01)	(0.02)	(0.01)	(0.03)	(0.01)	(0.01)
Number of years teaching at current school	0.50***	0.50	0.50***	0.48	0.46***	0.70
	(0.11)	(0.29)	(0.11)	(0.37)	(0.11)	(0.16)
School characteristics						
Urban ^b	0.41	0.29	0.43	0.17	0.67	0.42
	(0.31)	(0.35)	(0.31)	(0.30)	(0.45)	(0.23)
Rural ^b	0.00	0.00	0.00***	0.00***	0.00***	0.31
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.30)
Percent minority students	0.15	7.53	0.17	6.48	0.03**	0.52
	(0.25)	(22.21)	(0.30)	(25.33)	(0.04)	(0.66)
Percent students receiving FRL	17.97	0.03	5.41	0.03	25.03	0.20
	(44.37)	(0.09)	(16.39)	(0.10)	(52.84)	(0.29)

Table 27 (cont'd)

Full-time equivalents		1.04	1.14		1.03	1.11		1.02	0.10
		(0.03)	(0.01)		(0.04)	(0.14)		(0.04)	(0.03)
Student-teacher ratio		1.20	1.04		1.08	0.83		1.09	0.95
		(0.26)	(0.24)		(0.25)	(0.22)		(0.23)	(0.16)
Constant		0.00	0.00		0.00	0.00		0.03	103.70
		(0.00)	(0.00)		(0.00)	(0.00)		(0.14)	(392.90)
Observations	187		175	168		160		262	240
-2 log likelihood	-99.235		-57.118	-84.978		-51.722		-176.904	-119.209
AIC	206.469		168.237	177.957		163.445		361.807	302.417

Source: MIECT Spring 2009 Teacher Surveys and Spring 2010 Teacher Mobility Surveys

a. Middle school is the reference group

b. Suburban is the reference group

Notes. Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 28

Results of Multinomial Logistic Regressions with Multiple Fit Measures

	(4)		(5)	
	Subjective and Objective P-G fit plus P-O Fit		Subjective and Objective P-G fit	
	Mover	Leaver	Mover	Leaver
Teacher fit				
Person-organization fit	1.281 (0.534)	1.772 (0.992)		
Subjective person-group fit	1.157 (0.501)	0.417** (0.172)	1.220 (0.537)	0.425** (0.183)
Objective person-group fit	0.789 (0.610)	0.177** (0.155)	0.795 (0.618)	0.172* (0.160)
Teacher characteristics				
Minority	1.742 (2.708)	0.000*** (0.000)	1.818 (2.731)	0.000*** (0.000)
Female	2.418 (2.142)	1.407 (1.872)	2.471 (2.072)	1.292 (1.510)
Union member	0.000*** (0.000)	0.692 (0.822)	0.000*** (0.000)	0.695 (0.839)
Masters degree	2.820 (2.082)	1.472 (1.591)	2.846 (2.102)	1.442 (1.482)
Commitment to school	0.271*** (0.125)	0.138*** (0.0901)	0.292*** (0.118)	0.163*** (0.105)
Teaches elementary ^a	1.078 (1.322)	0.000*** (0.000)	1.091 (1.355)	0.000*** (0.000)
Total number of students	0.997 (0.011)	0.949** (0.023)	0.999 (0.001)	0.951** (0.023)
Number of years teaching at school	0.512*** (0.112)	0.501 (0.452)	0.500*** (0.112)	0.471 (0.431)
School characteristics				
Urban ^b	0.429 (0.326)	0.0863 (0.144)	0.404 (0.289)	0.0700 (0.131)
Rural ^b	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Percent minority students	0.198 (0.345)	21.580 (79.280)	0.185 (0.321)	19.290 (71.230)
Percent students receiving FRL	4.199 (12.78)	0.0163 (0.0500)	4.917 (15.150)	0.0249 (0.0768)

Table 28 (cont'd)

Full-time equivalents	1.032 (0.0338)	1.171 (0.143)	1.025 (0.039)	1.167 (0.142)
Student-teacher ratio	1.083 (0.265)	0.999 (0.231)	1.065 (0.253)	0.996 (0.255)
Constant	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Observations	160		160	
-2 log likelihood	-50.205		-50.748	
AIC	168.410		165.497	

Source: MIECT Spring 2009 Teacher Surveys and Spring 2010 Teacher Mobility Surveys

a. Middle school is the reference group

b. Suburban is the reference group

Notes. Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

References

References

- Adkins, C., Ravlin, E., Meglino, B. (1996). Value congruence between co-workers and its relationship to work outcomes. *Group and Organization Management*, 21(4), 439-460.
- Akaike, H. (1987). Factor analysis and AIC. *Psychometrika*, 52(3), 317-332.
- Bauer, T., Morrison, E., & Callister, R. (1998). Organizational socialization: A review and directions for future research. *Research in Personnel and Human Resource Management*, 16, 149-214.
- Bidwell, C. (2001). Analyzing schools as organizations: Long-term permanence and short-term change. *Sociology of Education*, 74, 100-114.
- Bidwell, C., Frank, K., & Quinoz, P. (1997). Teacher types, workplace controls, and the organization of schools. *Sociology of Education*, 70(4), 285-307.
- Borman, G., & Dowling, N.M. (2008). Teacher attrition and retention: A meta-analytic and narrative review of the research. *Review of Educational Research*, 78(3), 367-409.
- Boyd, D., Grossman, P., Ing, M., Lankford, H., Loeb, S., & Wyckoff, J. (2010). The influence of school administrators on teacher retention decisions. *American Education Research Journal*, XX(X), 1-31.
- Boyd, D., Lankford, H., Loeb, S., & Wyckoff, J. (2005). The draw of home: How teachers' preferences for proximity disadvantage urban schools. *Journal of Policy Analysis and Management*, 24(1), 113-132.
- Cable, D. & Parsons, C. (2001). Socialization tactics and person-organization fit. *Personnel Psychology*, 54(1), 1-23.
- Cannata, M. (2010). Understanding the teacher job search process: Espoused preferences and preferences in use. *Teachers College Record*, 112(12), 2889-2934.
- Chatman, J. (1989). Improving interactional organizational research: A model of person-organization fit. *Academy of Management Review*, 14(3), 333-349.
- Chatman, J. (1991). Matching people and organizations: Selection and socialization in public accounting firms. *Administrative Sciences Quarterly*, 36, 459-484.
- Clotfelter, C., Glennie, E., Ladd, H., & Vigdor, J. (2008). Would higher salaries keep teachers in high-poverty schools? Evidence from a policy intervention in North Carolina. *Journal of Public Economics*, 92(5-6), 1352-1370.
- Dillman, D. (2007). *Mail and Internet Surveys: The Tailored Design Method, Second Edition*. Hoboken, NJ: Wiley.

- Feng, L., Figlio, D., & Sass, T. (2010). School accountability and teacher mobility. *NBER Working Paper 16070*. Washington, DC: National Bureau for Economic Research.
- Ferris, G., Youngblood, S., & Yates, V. (1985). Personality, training performance, and withdrawal: A test of the person-group fit hypothesis for organizational newcomers. *Journal of Vocational Behavior*, 27, 377-388.
- Frank, K., & Zhao, Y. (2005). Subgroups as a meso-level entity in the social organization of schools. In L.W. Hedges & B. Schneider (Eds.), *The Social Organization of Schooling* (pp.279-318). New York: Russell Sage Foundation.
- Good, L. & Nelson, D. (1971). Effects of person-group and intragroup attitude similarity on perceived group attractiveness and cohesiveness. *Psychonomic Science*, 25(4), 215-217.
- Glazerman, S., Dolfin, S., Bleeker, M., Johnson, A., Isenberg, E., Lugo-Gil, J., & Grider, M. (2008). *Impacts of Comprehensive Teacher Induction: Results from the First Year of a Randomized Controlled Study*. Washington, DC: Institute of Education Sciences.
- Glazerman, S., Isenberg, E., Dolfin, S., Bleeker, M., Johnson, A., Grider, M., & Jacobus., M. (2010). *Impacts of Comprehensive Teacher Induction: Final Results from a Randomized Controlled Study*. Washington, DC: Institute of Education Sciences.
- Grissom, J. (2011). Can good principals keep teachers in disadvantaged schools? Linking principal effectiveness to teacher satisfaction and turnover in hard-to-staff environments. *Teachers College Record*, 113(11).
- Grossman, P.L., & Thompson, C. (2004). District policy and beginning teachers: A lens on teacher learning. *Educational Evaluation and Policy Analysis*, 26(4), 281-301.
- Guarino, C., Santibanez, L., Daley, G. (2006). Teacher recruitment and retention: A review of the recent empirical literature. *Review of Educational Research*, 76(2), 173-208.
- Hanushek, E., Kain, J., & Rivkin, S. (2002). Why public schools lose teachers. *Journal of Human Resources*, 39(2), 326-354.
- Imazeki, J. (2005). Teacher salaries and teacher attrition: How much is enough? *Economics of Education Review*, 24, 431-449.
- Johnson, S.M. & Birkeland, S. (2003). Pursuing a “sense of success”: New teachers explain their career decisions. *American Educational Research Journal*, 40(3), 581-617.
- Kalleberg, A. (2008). The mismatched worker: When people don’t fit their jobs. *Academy of Management Perspectives*, 22(1), 24-40.

- Kammeyer-Mueller, J.D., & Wanberg, C.R. (2003). Unwrapping the organizational entry process: Disentangling multiple antecedents and their pathways to adjustment. *Journal of Applied Psychology, 88*(5), 779-794.
- Kardos, S. & Johnson, S.M. (2010). New teachers' experiences of mentoring: The good, the bad, and the inequity. *Journal of Educational Change, 11*(1), 23-44.
- Kristof-Brown, A., Jansen, K., & Colbert, A. (2002). A policy-capturing study of the simultaneous effects of fit with jobs, groups, and organizations. *Journal of Applied Psychology, 87*(5), 985-993.
- Lesser, V., Dillman, D., Lorenz, F.O., Carlson, J., Brown, T. (1999, August). *The influence of financial incentives on mail questionnaire response rates*. Paper presented at the Meeting of the Rural Sociological Society, Portland, Oregon.
- Ondrich, J., Pas, E., & Yinger, J. (2008). The determinants of teacher attrition in upstate New York. *Public Finance Review, 36*(1), 112-144.
- Pogodzinski, B. (2009). Collective bargaining and human resource policies: Effects on mentoring and commitment levels of novice teachers. (Doctoral Dissertation). Retrieved from ProQuest Digital Dissertations database. (Publication No. 3381321).
- Pogodzinski, B. (under review). Socialization of novice teachers. *Journal of School Leadership*.
- Rowan, B. (1990). Commitment and control: Alternative strategies for the organizational design of schools. *Review of Research in Education, 16*, 359-389.
- Smith, T., & Ingersoll, R. (2004). What are the effects of induction and mentoring on beginning teacher turnover? *American Educational Research Journal, 41*(3), 681-714.
- Tak, J. (2011). Relationships between various person-environment fit types and employee withdrawal behaviors: A longitudinal study. *Journal of Vocational Behavior, 78*(2), 315-320.
- Talbert, J. & McLaughlin, M. (1994). Teacher professionalism in local school contexts. *American Journal of Education, 102*(2), 123-153.
- Theobald, N. (1990). An examination of the influence of personal, professional, and school district characteristics on public school teacher retention. *Economics of Education Review, 9*(3), 241-250.
- Youngs, P. (2007). District induction policy and new teachers' experiences: An examination of local policy implementation in Connecticut. *Teachers College Record, 109*(4), 797-837.

Conclusion:

Implications for Policy and Practice

While existing studies of teacher retention have primarily attempted to isolate economic, and, to a lesser degree, organizational, factors which predict teacher turnover, these three chapters extended the teacher retention research by employing a person-environment fit theoretical framework, frequently used in studies of turnover in other professions, but infrequently seen in studies focusing on teachers. Specifically, I explored how person-organization (P-O), person-job (P-J), and person-group (P-G) fit related to teacher retention. The analysis incorporated multiple measures of fit simultaneously, a strategy that has been recommended by some industrial organizational psychology researchers, but is not common in fit research in education or across a broader sample of professions (Kristof-Brown, Jansen, & Colbert, 2002; Tak, 2011).

Below, I summarize the findings across the three chapters that make up this dissertation. Additionally, I address the limitations of the current study, while discussing implications of these findings for policy makers and practitioners involved in teacher recruitment, selection, and retention efforts.

Summary of findings.

In Chapter 1, I set out to answer the guiding question: *What fit measures for teachers can be created from existing survey data, and how do these measures compare to each other?* I calculated multiple measures of person-organization, person-job, and person-group fit from two distinct data sources. After creating these multiple measures, I conducted an exploratory analysis which assessed the relationships between these newly created alternatives.

I followed a similar process for the creation of fit measures in each dataset. I began by

reviewing the literature to determine which survey items were commonly used in measurements of fit. In doing so, I was able to identify approximately five to eight individual survey items in each dataset which were theoretically related to one of the three types of fit. After identifying this series of survey items, I created multiple measures of fit using different analytical techniques, ranging from the relatively simple to more complex: additive linear combinations, composite scales, and factor scores. Because of the way in which the data were collected, all of my P-O and P-J fit measures were *subjective* measures, as was one of the P-G fit measures; that is, they were created using information from only the survey respondents, not multiple organization members. However, using MIECT data, it was also possible to create *objective* P-G fit measures, incorporating information from the primary survey respondent, as well as other close colleagues.

After creating these multiple alternative measures, I engaged in an exploratory analysis by assessing a series of “nested” models, using model fit statistics to compare the relative utility of these measures. To determine which measures created in Chapter 1 should be used as predictors of teacher retention in Chapters 2 and 3, I reviewed the results of the Chapter 1 analysis, and also considered prior research regarding predictors of retention. As a result, I determined that the subjective P-O and P-J fit measures created using a factor analysis approach with Schools and Staffing Survey data should be used as predictors of retention in Chapter 2. For Chapter 3, I retained one objective P-G fit measure created using Cronbach and Gleser’s (1953) D-statistic, as well one subjective P-G fit measure created using a factor analysis approach. Finally, although the data exploration suggested that the subjective P-O fit scale I created might not be a statistically significant predictor of retention, I retained it for Chapter 3 given its

theoretical relevance, and in order to control for this type of fit while looking more closely at the impact of P-G fit on retention.

The analysis undertaken in Chapter 1 contributed to the education and fit research literature by creating measures of three types of fit from teacher survey data. Further, it illustrated the oft-repeated challenge of creating reliable fit measures from survey data, and documented alternative methodological approaches for creating both subjective and objective fit measures.

In Chapter 2, I addressed three research questions using a nationally representative sample of public school teachers: 1) *How is fit with teaching related to the likelihood of switching schools or leaving the profession?*; 2) *How is fit with the school related to the likelihood of switching schools or leaving the profession?*; and 3) *When teachers leave their original school, do they assess fit to be higher in their new school? If so, what factors are associated with improved fit?* In posing these research questions, I hypothesized that low levels of P-J fit would be associated with increased odds of leaving the teaching profession but not related to the odds of switching schools; that low levels of P-O fit would be associated with increased odds of moving or leaving teaching entirely; and finally, that movers would experience higher levels of P-O fit in their new organization.

To address these research questions, I used multinomial logistic regression models to explore the odds of switching schools or leaving teaching, with the subjective P-J and P-O fit measures created in Chapter 1 as primary predictors. Because of the complex survey sample design of the Schools and Staffing Survey dataset used in this analysis, I pursued a design-based approach using Stata's svy set of commands, and controlled for a variety of teacher, principal, school, and district characteristics in the analysis.

Results of this analysis confirmed that P-J and P-O fit were both significant predictors of teacher retention. Without controlling for levels of P-O fit, for every one-unit increase in the measure of P-J fit, teachers were 22.2 percent less likely to switch schools rather than remain in their 2003-2004 academic year placement ($RRR=0.778$, $p<0.01$), and were 31.7 percent less likely to leave teaching all together ($RRR=0.683$, $p<0.01$). Without controlling for P-J fit, for every one-unit increase in the P-O fit measure, the odds of switching schools were 27.0 percent lower than the odds of remaining in the same school ($RRR=0.730$, $p<0.01$), while the odds of leaving teaching were 31.8 percent lower than the odds of remaining in the same school ($RRR=0.682$, $p<0.01$). In the model which included measures of both P-J and P-O fit, I found that P-O fit was significantly related to both switching schools ($RRR=0.783$, $p<0.05$) and leaving teaching altogether ($RRR=0.799$, $p<0.05$), while P-J fit was only significantly associated with the odds of leaving teaching ($RRR=0.760$, $p<0.01$); these findings supported the hypotheses posed for the study. However, the final hypothesis of the study was not supported. I found no significant evidence that teachers improved their P-O fit after moving to a new organization.

The analysis completed in Chapter 2 contributed to the education research literature by demonstrating that both person-job and person-organization fit played a role in teacher retention. Further, the analysis contributed to the fit research literature by explicitly analyzing the simultaneous effects of two types of fit in the same model.

In Chapter 3, I addressed two research questions using a sample of early career public school teachers in two Midwestern states: 1) *How is fit with the school related to the likelihood of switching schools or leaving the profession?*; and 2) *How is fit with the group of close colleagues related to the likelihood of switching schools or leaving the profession?* I hypothesized that, much like in Chapter 2, low levels of P-O fit would be associated with

increased odds of switching schools or leaving teaching entirely, while low levels of P-G fit would be significantly related to increased odds of switching schools, but not related to the odds of leaving teaching.

To address these research questions, I again used multinomial logistic regression models to explore the odds of switching schools or leaving teaching, incorporating fit measures created in Chapter 1. In this analysis, I included subjective P-O fit measures, and both subjective and objective P-G fit measures, as the primary predictors of early career teacher retention. I adjusted standard errors to account for the clustering of teachers within schools, and controlled for a variety of teacher and school characteristics in the analysis.

As a result of this analysis, I found that P-O fit was not a significant predictor of switching schools ($RRR=1.227$, $p>0.10$) or leaving teaching ($RRR=1.796$, $p>0.10$), thus leading me to reject the hypothesis that low levels of P-O fit would be associated with increased teacher attrition. Further, this finding contradicted the results related to P-O fit obtained in Chapter 2.

Despite the disappointing findings regarding P-O fit, I identified significant relationships between P-G fit and retention. The subjective measure of person-group fit was a significant predictor of teacher retention, although only for the likelihood of leaving teaching entirely. For every one standard deviation increase in the P-G fit measure, early career teachers were 57 percent less likely to leave teaching all together ($RRR=0.443$, $p<0.05$). The objective measure of person-group fit was also positively related to retention. Early career teachers whose predominant instructional orientation matched with their group of close colleagues were 64 percent less likely to leave teaching than those whose instructional orientation was misaligned with the orientation of their close colleagues ($RRR=0.339$, $p<0.05$). There was a similar relationship with the likelihood of switching schools, although this result was not statistically

significant ($RRR=0.608$, $p>0.10$). It was notable that while these findings revealed significant relationships with teacher turnover, the results were inconsistent with the hypothesis concerning the relationship between P-G fit and retention.

The analysis completed in Chapter 3 also contributed to the education research literature by demonstrating that person-group fit played a role in teacher retention, but raised questions about the salience of person-organization fit for early career teachers. As will be discussed below, this finding was not entirely out of step with other research regarding the role of work experience as a moderator of the relationship between P-O fit and desirable employment outcomes. Finally, Chapter 3 also contributed to the fit research literature by again looking at the simultaneous effects of two types of fit in the same model.

Taking the findings of the current study in total, it was evident that fit matters in teacher retention, and in many ways, the relationship between teacher fit and retention was consistent with findings from prior research using data from other types of professionals. Previous research has demonstrated that person-organization, person-job, and person-group fit can have simultaneous, independent effects on desirable employment outcomes, and that these effects may differ based on employee work experience (Kristof-Brown, et al., 2002). For teachers with a range of experience levels, P-O fit and P-J fit were consistent and strong predictors of retention, with a decreased emphasis on P-J fit versus P-O fit for those with more work experience (Kristof-Brown et al., 2002). For teachers early in their careers, the findings were mixed; while organizational fit was not a significant predictor of retention, group fit was.

The differential effects of organizational fit for early career teachers and those with more experience were consistent with previous research indicating that experience plays a role in the salience of P-O fit for employees (Kristof-Brown et al., 2002). Specific to early career teachers,

this finding may be a result of the fact that these beginning teachers were in the “sink-or-swim” phase of their careers (Smith & Ingersoll, 2004), and thus more responsive to close personal relationships, rather than the broader organizational context, when making decisions about their careers. Further, early career teachers have likely had less exposure to multiple organizations, and thus may not be as sensitive as more experienced workers to how well different types of organizational environment match up with their personal goals and expectations (Kristof-Brown et al., 2002).

Perceptions of fit aside, there may be policy-relevant reasons that these early career teachers were more at risk for turnover than those with more experience; early career teacher retention may simply be indirectly influenced by broader labor market contexts, including the specific teacher contracts that exist in participating school districts. If districts have a “last in, first out” approach to teacher layoffs, then our early career teachers may have been disproportionately targeted for reduction in force efforts, making fit a less useful predictor of retention than it would be if the sample included teachers with a range of experience levels. Future research with these MIECT data should control for whether or not teacher labor market moves were voluntary versus involuntary.

Additional implications for policy and practice will be discussed below.

Limitations.

While these results offered useful evidence of the relationship between fit and retention, there were limitations that warrant discussion. First, it is worth noting that these data make it impossible to distinguish between permanent leavers and those who “stop out” to pursue other opportunities (i.e., graduate school, caring for a relative, having a baby) for a period of time before returning to the classroom. In this analysis, they can only be considered “leavers.”

Ingersoll and May (2010) note that temporary attrition leads to school-level staffing challenges that are similar to complete exit, but stop short of quantifying exactly what percentage of teachers who leave a school eventually re-enter the classroom. Recent estimates of the percent of teachers who “stop out” are scarce, but Provasnik and Dorfman (2005) estimated that about 4 percent of the teachers who entered a new school in the 1999-2000 academic year were returning to the classroom after taking time off, which was relatively consistent with estimates from the prior 10 years. Estimates using older data (from the 1980’s) suggested that approximately 30 percent of teachers who left at some point did return to the teaching workforce (Murnane & Willett, 1988; Nataraj Kirby & Hudson, 1991). Given that “stopping out” is typically related to life circumstances such as child rearing, it is unlikely that this form of temporary attrition would be significantly related to the types of fit used in this analysis.

Another data challenge was that the MIECT study relied on district-level personnel records, versus a state-level database, to determine retention. The “leavers” in that study could in fact still be teaching, albeit in a different district, but we could not observe inter-district mobility given our data. Consequently, future research could attempt to incorporate additional years of data, preferably from state-level data systems, to determine if these fit measures impact teacher retention differently when inter-district moves or “stopping out” are also modeled as mobility outcomes.

It is worth noting that Chapters 2 and 3 test relationships between fit and retention using two decidedly different datasets. Data for Chapter 2 come from a nationally representative dataset which included teachers with a range of experience levels. Data for Chapter 3 were from a dataset that covered two states and included only early career teachers. The contradictory findings related to P-O fit obtained from these two distinct datasets have already been discussed

in light of the possible lack of salience of fit for inexperienced employees. Further, it is possible that the MIECT findings were out of step with SASS findings because of the difficult economic conditions in Michigan and Indiana. In a labor market that presents few job alternatives, retention decisions may not be as susceptible to teacher perceptions of fit as they might be were conditions more promising. Indeed, existing research indicates that turnover intentions are strongly influenced by perceived job alternatives (March & Simon, 1958; Wheeler et al., 2005; Wheeler et al., 2007); perhaps teachers in our MIECT study were willing to tolerate some degree of misalignment given limited job alternatives, particularly for early career teachers. This possibility could result in an omitted variable problem for the analysis- perceived alternatives were not measured with our surveys- thus leading to a downward bias of estimates of the relationship between fit and turnover.

Another limitation of this study was that it did not include any measures of student achievement or teacher effectiveness. While improving, to date, data system limitations have made it difficult to link student achievement to individual teachers (Schneider, Grogan, & Maier, *in press*), and only a handful of studies have been able to do so when exploring teacher retention (Boyd et. al., 2008; Goldhaber, Gross, & Player, 2010; Hanushek et al., 2005; Krieg, 2006). Unfortunately, the data used in the present study did not allow this.

Moving forward, it seems likely that future teacher retention studies will focus on *differential* retention; that is, are teachers who are deemed to be “more effective” than their peers more likely to be retained, while those who are “least effective” more likely to leave? Given the fast pace at which states and districts are developing definitions of teacher effectiveness and linking these measures to other personnel datasets, it is highly likely that this question of differential retention will receive increased attention in the near future. It will be important to

look at how fit interacts with teacher quality, and as such, the next step in this research is to integrate teacher effectiveness measures into analysis of fit and retention.

Implications for policy and practice.

What are the implications of these findings regarding the relationship between fit and retention? It is clear from previous research that high levels of turnover are detrimental to organizations, including schools, for a variety of reasons. High levels of turnover may be a signal that there are serious underlying problems with how the organization is run (Ingersoll & May, 2010; Keesler, 2010). For example, teachers frequently report dissatisfaction with their involvement in school decision making and lack of support from school leadership when offering reasons for leaving their school (Allensworth, Ponisciak, & Mazzeo, 2009; Boyd et al., 2010a; Grissom, 2011; Ingersoll, 2001; Ladd, 2009). Additionally, high organizational turnover may reduce teacher community (Bryk & Schneider, 2002; Guin, 2004), lead to a decline in instructional cohesion (National Commission on Teaching and America's Future, 2003) or result in low employee morale (Rainey, 2003), which in turn could decrease the performance of remaining employees (Iverson & Zatzick, 2011) and leave the school in a cycle of continually "churning" employees (Borman & Dowling, 2008). Further, high levels of teacher turnover also seem to be related to high levels of *student* mobility; this organizational instability is in turn associated with decreased school-level academic performance (Keesler, 2010).

To avoid these negative consequences, principals and other administrators might do more to manipulate the environment in which teachers work, by "pay[ing] attention to job as well as coworker assignments and to how organizational culture is conveyed to employees" (Kristof-Brown et al., 2002, p. 992). Being intentional regarding teacher selection, job assignments, grade

level teams, and induction experiences may positively impact all three types of fit, thus increasing the likelihood of teacher retention.

Schools and school districts also face significant financial and human capital costs associated with teacher turnover. Teacher turnover is costly to schools and districts (Barnes, Crowe, & Schaefer 2007; Ingersoll & Smith, 2003; Texas Center for Educational Research (TCER), 2000; Tziner & Birati, 1996; Watlington et al., 2010). Districts make significant investments in induction and mentoring for newly hired teachers; one study estimates that high quality induction programs cost approximately \$6,000 per teacher (Barnes et al., 2007). When teachers leave the district, this investment in the teacher is lost. However, turnover costs are not limited to the just the loss of the direct investment in induction, but also encompass the costs of the full selection process, which take school leaders away from other tasks related to teaching and learning (Allensworth et al., 2009). A frequently cited study estimates that teacher turnover costs for just one large state are in excess of \$200 million each year, with half of those costs associated with the loss of early career teachers (TCER, 2000); other studies estimate a per-teacher cost ranging from \$5,000 to \$18,000 (Barnes et al., 2007). In a policy climate in which schools are facing huge budget shortfalls, unnecessary costs associated with high levels of teacher turnover are obviously problematic, and districts have strong incentives to avoid these costs.

Because of the high costs associated with turnover, another implication of the findings between fit and retention suggest that personnel managers, whether at the school or district level, might incorporate judgments regarding organizational, job, and group fit into the recruitment, selection, and induction process, rather than wait until the employee is on the job to attempt to influence fit (Kristof-Brown et al., 2002; McCulloch & Turban, 2007). One practical policy

recommendation is to move away from hiring through forced placement, and place greater emphasis on hiring using “mutual consent” policies, which take into account how well an applicant will fit with organizational goals, colleagues, and specific characteristics of the job. Mutual consent hiring requires the agreement of both teacher and principal before a teacher is placed in a school, heightening the likelihood of a strong fit. Evidence suggests teachers and administrators strongly favor the mutual consent approach to hiring (Daly et al., 2008; Rutledge et al., 2008) and that schools are able to successfully hire quality teachers under this type of selection system (Boyd et al., 2010b).

Jackson (2010) stresses the importance of “match quality” for hiring effective teachers, observing “[W]e have very little evidence that a teacher in a suburban school who is effective at increasing the test scores of affluent suburban (poor inner city) kids would be effective at improving the test scores of low-income inner-city (affluent suburban) students *at another school*” (p. 3). There are many mechanisms by which assessing fit prior to hiring teachers is related to desirable employment outcomes. A good fit of skills and knowledge can help teachers be more effective in their teaching assignment. Further, when a position is a good match for teachers’ expectations, they are likely to be more satisfied in the job (Liu & Johnson, 2006). In their summary of existing research on administrator preferences in teacher hiring, Rutledge et al. (2008) concluded that principals “seek both professional and personal characteristics that *match those of the teachers already present at the school*” (p. 238, emphasis added). They also found that principals of Title I schools in an urban district in Florida were not bothered by the fact that some prospective teachers attempted to circumvent district hiring policies designed to reduce staffing challenges in Title I schools; the principals did not believe that teachers who set out to thwart such policies would have been a good fit for their schools even if hired. These Title I

principals “expressed disinterest in applicants not committed to working with the Title I population of students” (p. 250), showing that candidates’ willingness and interest in the specific school environment was very important to the principals. Finally, while the evidence regarding the effectiveness of teacher induction programs in terms of reducing teacher turnover is mixed (Glazerman et al., 2008; Glazerman et al., 2010), there is compelling evidence that the relationship between fit and turnover is likely different for employees with work experience in multiple organizations as compared to employees early in their careers (Kristof-Brown et al., 2002). This suggests that policy interventions to increase fit, and therefore retention, will likely look different depending how long a teacher has been in the classroom.

While there is clear evidence that high levels of turnover are related to negative organizational outcomes, it is worth noting that not all turnover is negative (Guarino, Santibanez, & Daley, 2006; Meier & Hicklin, 2008; Mosher & Kingsley, 1936). The consequences of turnover likely follow a U-shaped, rather than linear, curve (Hausknecht & Trevor, 2011; Meier & Hicklin, 2008; Mosher & Kingsley, 1936). For example, some existing research shows that school districts with extremely low levels of turnover actually had lower academic performance than those that had more typical levels of turnover (Meier & Hicklin, 2008). Research on fit intersects with these findings regarding “positive” turnover. While both the individual and the organization might benefit from some degree of P-O fit, “too much” may have negative implications (Chatman, 1989; Ryan & Kristof-Brown, 2003). Extremely high P-O fit can lead to conformity and homogeneity (Chatman, 1989). Fit that is “too good” can suppress creativity, and, in times of crisis, limit the expression of diverse perspectives. High levels of P-O fit may impede decision making and innovative approaches to problem solving if multiple or conflicting viewpoints are not factored into the process (Ryan & Kristof-Brown, 2003). Additionally, while

decreased turnover is generally mentioned as a positive outcome of high levels of P-O fit, if fit is so high that dissenting viewpoints are not tolerated, individuals with conflicting values may chose to leave the organization. Kristof-Brown, Zimmerman, & Johnson (2005) note that organizations often reinforce a set of values for their employees, which may cause individuals who do not share the same values to leave. They recommend that "special attention should be paid to maintaining a healthy level of diversity in order to avoid the drawbacks associated with excessive homogeneity" (p.326).

Based on findings illustrating the U-shaped effects of turnover, one concrete recommendation for schools and districts is to approach turnover as “a process that needs to be managed” (Meier & Hicklin, 2008; p. 585). Schools and districts could actively pursue a talent management strategy that focuses on the retention of high performers (Hausknecht, Rodda, & Howard, 2009). One way that schools and districts might do this is to pivot their efforts to focus not on teacher retention generally, but specifically on *differential* retention; that is, target efforts to retain their most effective teachers, with less emphasis on retaining lower performers. Attrition of the lowest performers may actually lead to positive outcomes for students and the teachers who remain in the school. Prior research suggests that attrition of low performers may have positive impacts on the organization by replacing low performers with higher performers, and “signaling” to remaining employees that low performance is not acceptable (Dalton & Todor, 1979; Dalton, Todor, & Krackhardt, 1982; McElroy, Morrow & Rude, 2001; Meier & Hicklin, 2008). As previously noted, healthy levels of turnover provide an opportunity to bring new, innovative ideas to the organization (Kellough & Osuna, 1995; McElroy, Morrow & Rude, 2001; Meier & Hicklin, 2008).

The present study offered evidence that higher levels of group fit were related to increased retention (in both the school and the profession) of early career teachers. This result may be particularly important in the retention of the most promising new teachers. Highly effective teachers are more likely to experience positive outcomes when their group of close colleagues is also high performing. Student achievement is positively affected by “spillover effects” of higher performing teachers; that is, when teachers have high performing colleagues, their own students are more likely to experience larger test score gains (Jackson & Bruegman, 2009). Emerging research suggests that the most effective teachers, as measured by value-added scores, are less likely to switch schools or leave teaching than their lower-performing peers (Boyd et. al., 2008; Goldhaber, Gross, & Player, 2010; Hanushek et al., 2005; Krieg, 2006). For example, Ingle (2009) finds a negative relationship between reading value-added scores and teacher attrition. Similarly, one study demonstrated that the lowest value-added elementary math teachers were those who were most likely to switch schools, which the authors interpreted as evidence of the “dance of the lemons” (Goldhaber et al., 2010, p. 32). However, when effective teachers do leave their schools, they tend to move to schools in which the majority of their colleagues are in the top quartile of teacher quality (Feng & Sass, 2008). Further, teachers who encounter a large gap between their own effectiveness and those of their close colleagues are more likely to leave their schools (Feng & Sass, 2008).

While the current study did not include student achievement data, one of the findings from Chapter 2 may provide indirect support for prior findings related to gaps between effective and less effective colleagues as they relate to retention. In Chapter 2, I found that for every one percent increase in the percentage of teachers that principals perceived as “teaching to high standards,” individual teachers were about two percent less likely to switch schools and about

one percent less likely to leave teaching altogether. Though the effectiveness of any individual SASS respondent could not be assessed with these data, this finding did appear to offer evidence that teachers moved away from schools their principals perceived as containing less effective faculties. Existing evidence on the role of the group of colleagues in attrition of effective teachers, coupled with results from the present study, suggest that one policy intervention to keep high performing teachers in the profession is to ensure that they have the opportunity to work closely with high performing colleagues. Indeed, broader personnel research finds that high achievers prefer to work in challenging situations where high achievement is required (Diener, Larsen, & Emmons, 1984).

Moving forward, fit and retention warrant continued attention in educational policy and research, particularly when an aim is to increase retention of *highly effective* teachers, while minimizing costly efforts to retain lower performers who are unlikely to improve. Even the most talented teachers will be unable to reach their full potential if their teaching position is not a good fit. Using recruitment and selection policies to match up teachers with the environment where they are most likely to be successful is a promising strategy for improving both retention and student achievement. Matching up early career teachers with a group of high performing colleagues may be a promising strategy for building an effective teaching force that will have long-term positive effects on student achievement. As policy continues to emphasize using teacher effectiveness as a component of teacher and school evaluation, fit with the job, school, and colleagues should also remain a focus of policymakers, practitioners, and researchers.

References

References

- Allensworth, E., Ponisciak, S., & Mazzeo, C. (2009). *The Schools Teachers Leave: Teacher Mobility in Chicago Public Schools*. Chicago: Consortium on Chicago School Research at the University of Chicago Urban Education Institute.
- Barnes, G., Crowe, E., & Schaefer, B. (2007). *The cost of teacher turnover in five school districts: A pilot study*. Washington, DC: National Commission on Teaching and America's Future. Retrieved February 21, 2011 from http://www.nctaf.org/resources/demonstration_projects/turnover/documents/CTTFullReportfinal.pdf.
- Borman, G., & Dowling, N.M. (2008). Teacher attrition and retention: A meta-analytic and narrative review of the research. *Review of Educational Research*, 78(3), 367-409.
- Bryk, A. & Schneider, B. (2002). *Trust in Schools: A Core Resource for Improvement*. New York: Russell Sage Foundation.
- Boyd, D., Grossman, P., Lankford, H., Loeb, S. and Wyckoff, J. (2008). Who leaves? Teacher attrition and student achievement. *NBER Working Paper #14022*. Cambridge, MA: National Bureau of Economic Research.
- Boyd, D., Grossman, P., Ing, M., Lankford, H., Wyckoff, J. (2010a). The influence of school administrators on teacher retention decisions. *American Educational Research Journal*, XX(X), 1-31.
- Boyd, D., Lankford, H., Loeb, S., Ronfeldt, M. & Wyckoff, J. (2010b). The role of teacher quality in retention and hiring: Using applications-to-transfer to uncover preferences of teachers and schools. *NBER Working Paper #15966*. Cambridge, MA: National Bureau of Economic Research.
- Chatman, J. (1989). Improving interactional organizational research: A model of person-organization fit. *Academy of Management Review*, 14(3), 333-349.
- Cronbach, L. & Gleser, G. (1953). Assessing similarity between profiles. *The Psychological Bulletin*, 50(6), 456-473.
- Dalton, D., & Todor, W. (1979). Turnover turned over: An expanded and positive perspective. *Academy of Management Review*, 4, 225-235.
- Dalton, D., & Todor, W., & Krackhardt, D. (1982). Turnover overstated: The functional taxonomy. *Academy of Management Review*, 7, 117-123.
- Daly, T., Keeling, D., Grainger, R., & Grundies, A. (2008). *Mutual Benefits: New York City's Shift to Mutual Consent in Teacher Hiring*. New York: The New Teacher Project.

- Diener, E., Larsen, R., & Emmons, R. (1984). Person X situation interactions: Choice of situations and congruence response models. *Journal of Personality and Social Psychology*, 47, 580-592.
- Feng, L. & Sass, T. (2008). *Teacher Quality and Teacher Mobility*. Unpublished manuscript. Tallahassee, FL: Florida State University. Retrieved February 27, 2011 from http://econ.as.nyu.edu/docs/IO/14691/Sass_1_20100419.pdf.
- Goldhaber, D., Gross, B., & Player, D. (2010). Teacher career paths, teacher quality, and persistence in the classroom: Are public schools keeping their best? *CEDR Working Paper # 2010-2*. Retrieved February 18, 2011 from http://www.cedr.us/papers/working/CEDR%20WP%202010-2_Teacher%20Career%20Paths%20%288-20-10%29.pdf.
- Glazerman, S., Dolfin, S., Bleeker, M., Johnson, A., Isenberg, E., Lugo-Gil, J., & Grider, M. (2008). *Impacts of Comprehensive Teacher Induction: Results from the First Year of a Randomized Controlled Study*. Washington, DC: Institute of Education Sciences.
- Glazerman, S., Isenberg, E., Dolfin, S., Bleeker, M., Johnson, A., Grider, M., & Jacobus., M. (2010). *Impacts of Comprehensive Teacher Induction: Final Results from a Randomized Controlled Study*. Washington, DC: Institute of Education Sciences.
- Grissom, J. (2011). Can good principals keep teachers in disadvantaged schools? Linking principal effectiveness to teacher satisfaction and turnover in hard-to-staff environments. *Teachers College Record*, 113(11).
- Guin, K. (2004). Chronic teacher turnover in urban elementary schools. *Education Policy Analysis Archives*, 12(42), 1-30.
- Guarino, C., Santibanez, L., Daley, G. (2006). Teacher recruitment and retention: A review of the recent empirical literature. *Review of Educational Research*, 76(2), 173-208.
- Hanushek, E., Kain, J., O'Brien, D. & Rivkin, S. (2005). The market for teacher quality. *NBER Working Paper 11154*. Cambridge, MA: National Bureau of Economic Research.
- Hausknecht, J., Rodda, J., & Howard, M. (2009). Targeted employee retention: Performance-based and job-related reasons for staying. *Human Resources Management*, 48(2), 269-288.
- Hausknecht, J. & Trevor, C. (2011). Collective turnover at the group, unit, and organizational levels: Evidence, issues, and implications. *Journal of Management*, 37(1), 352-388.
- Ingersoll, R. & May, H. (2010). *The Magnitude, Destinations, and Determinants of Mathematics and Science Teacher Turnover*. CPRE Research Report # RR-66. Philadelphia: Consortium for Policy Research in Education, University of Pennsylvania. Retrieved February 22, 2011 from http://repository.upenn.edu/cgi/viewcontent.cgi?article=1222&context=gse_pubs.

- Ingersoll, R., & Smith, T. (2003). The wrong solution to the teacher shortage. *Educational Leadership*, 60(8), 30-33.
- Ingle, W.K. (2009). Teacher quality and attrition in a US school district. *Journal of Educational Administration*, 47(5), 557-585.
- Iverson, R., & Zatzick, C. (2011). The effects of downsizing on labor productivity: The value of showing consideration for employees' morale and welfare in high-performance work systems. *Human Resource Management*, 50(1), 29-44.
- Jackson, C.K. (2010). Match quality, worker productivity, and worker mobility: Direct evidence from teachers. *NBER Working Papers #15990*. Cambridge, MA: National Bureau of Economic Research.
- Jackson, C.K. & Bruegman, E. (2009). Teaching students and teaching each other: The importance of peer learning for teachers. *ILR Collection Working Papers*. Ithaca, NY: Cornell University. Retrieved October 2, 2009 from <http://digitalcommons.ilr.cornell.edu/workingpapers/77>.
- Keesler, V. (2010). Teacher turnover and undersupply: A school organizational analysis. (Doctoral Dissertation). Retrieved from ProQuest Digital Dissertations database. (Publication No. 3435192).
- Kellough, E., & Osuna, W. (1995). Cross-agency comparisons of quit rates in the federal service. *Review of Public Personnel Administration*, 15, 58-68.
- Krieg, J. (2006). Teacher quality and attrition. *Economics of Education Review*, 25(1), 13-27.
- Kristof-Brown, A., Jansen, K., & Colbert, A. (2002). A policy-capturing study of the simultaneous effects of fit with jobs, groups, and organizations. *Journal of Applied Psychology*, 87(5), 985-993.
- Kristof-Brown, A., Zimmerman, R., & Johnson, E. (2005). Consequences of individuals' fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology*, 58(2), 281-342.
- Ladd, H. (2009). Teachers' perceptions of their working conditions: How predictive of policy-relevant outcomes. *National Center for Analysis of Longitudinal Data in Education Research Working Paper 33*. Washington, DC: CALDER.
- Liu, E. & Johnson, S.M. (2006). New teachers' experiences of hiring: Late, rushed, and information-poor. *Educational Administration Quarterly*, 42(3), 324-360.
- March, J. & Simon, H. (1958). *Organizations*. New York: Wiley.
- McCulloch, M., & Turban, D. (2007). Using person-organization fit to select employees

- for high-turnover jobs. *International Journal of Selection and Assessment*, 15, 63-71.
- McElroy, J., Morrow, P. & Rude, S. (2001). Turnover and organizational performance: A comparative analysis of the effects of voluntary, involuntary, and reduction-in-force turnover. *Journal of Applied Psychology*, 86, 1294-1299.
- Meier, K., & Hicklin, A. (2008). Employee turnover and organizational performance: Testing a hypothesis from classical public administration. *Journal of Public Administration Research and Theory*, 18(4), 573-590.
- Mosher, W., & Kingsley, J.D. (1936). *Public personnel administration*. New York: Harper and Brothers.
- Murnane, R., & Willet, J. (1988). The career paths of teachers: Implications for teacher supply and methodological lessons for research. *Educational Researcher*, 17(6), 22-30.
- Nataraj Kirby, S. & Hudson, L. (1991). Sources of teacher supply: Some new evidence from Indiana. *Educational Evaluation and Policy Analysis*, 13(3), 256-268.
- National Commission on Teaching and America's Future. (2003). *No dream denied: A pledge to America's children*. Retrieved February 27, 2010 from <http://www.utofp.org/FormsandDocuments/NoDreamDenied.pdf>
- Provasnik, S. & Dorfman, S. (2005). *Mobility in the Teacher Workforce: Findings from the Condition of Education 2005*. NCES 2005-114. Washington, DC: National Center for Education Statistics.
- Rainey, H. (2003). *Understanding and managing public organizations*. San Francisco, CA: Jossey-Bass.
- Ryan, A.M. & Kristof-Brown, A. (2003). Focusing on personality in person-organization fit research: Unaddressed issues. Chapter 10 in Barrick, M. and Ryan, A. [Eds]. *Personality and work* (pp. 262-283). San Francisco: Jossey Bass.
- Rutledge, S., Harris, D., Thompson, C., & Ingle, W.K. (2008). Certify, blink, hire: An examination of the process and tools of teacher screening and selection. *Leadership and Policy in Schools*, 7(3), 237-263.
- Schneider, B., Grogan, E., & Maier, A. (in press). Improving teacher quality: A sociological presage. In M. Hallinan (Ed.), *Frontiers in Sociology of Education*. New York: Springer.
- Smith, T., & Ingersoll, R. (2004). What are the effects of induction and mentoring on beginning teacher turnover? *American Educational Research Journal*, 41(3), 681-714.
- Tak, J. (2011). Relationships between various person-environment fit types and employee

- withdrawal behaviors: A longitudinal study. *Journal of Vocational Behavior*, 78(2), 315-320.
- Texas Center for Educational Research. (2000). *The cost of teacher turnover*. Austin: Texas State Board for Educator Certification. Retrieved February 21, 2011 from: <http://www.tcer.org/research/index.aspx>.
- Tziner, A. & Birati, A. (1996). Assessing employee turnover costs: A revised approach. *Human Resource Management Review*, 6(2), 113-122.
- Watlington, E., Shockley, R., Guglielmino, P., & Felsher, R. (2010). The high cost of leaving: An analysis of the cost of teacher turnover. *Journal of Education Finance*, 36(1), 22-37.
- Wheeler, A., Buckley, M., Halbesleben, J., Brouer, R. & Ferris, G. (2005). 'The elusive criterion of fit' revisited: toward an integrative theory of multidimensional fit. In Martocchio, J. (Ed.), *Research in Personnel and Human Resource Management*, Vol. 24: 265-304. Greenwich, CT: Elsevier/JAI Press.
- Wheeler, A., Coleman Gallagher, V., Brouer, R., & Sablinski, C. (2007). When person-organization (mis)fit and (dis)satisfaction lead to turnover: The moderating role of perceived job mobility. *Journal of Managerial Psychology*, 22(2), 203-219.