



1-2020

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Recommended Citation

Hanks, Joseph; Ferrin, Scott E.; Davies, Randall S.; Christensen, Steven S.; Harris, Scott P.; and Bowles, W. Bryan (2020) "Law and Policy Impacts on Teacher Attrition in Public Education: Data Suggesting a New Focus Beyond the Silver Bullets of Targeted STEM and Other Salary Increases," *BYU Education & Law Journal*: Vol. 2020 : Iss. 2 , Article 3.

Available at: https://scholarsarchive.byu.edu/byu_elj/vol2020/iss2/3

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INTRODUCTION

Though not a new phenomenon,¹ teacher shortages in the U.S.

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⁺⁺⁺ W. Bryan Bowles is an associate clinical professor in Brigham Young University's department of Educational Leadership and Foundations. He previously served as a public school

are currently worse than they have been in decades, with some researchers considering them to be at crisis levels.² This crisis can be broadly portrayed in terms of three dynamics: student enrollments, teacher recruitment, and teacher attrition. While these dynamics are always present within school systems, their imbalance at present is exacerbating teacher shortages. At the same time that teachers are leaving the profession at a high rate, student enrollments are up and new entrants into the teaching profession are down.³ Areas with higher concentrations of vulnerable student populations (e.g. low SES, minority, undereducated parents, etc.) are experiencing greater levels of teacher shortage (including shortages of highly qualified teachers) than other, more resourced, areas.⁴ Many researchers have suggested that highly effective teachers have been shown to cause significant gains in student achievement, especially in schools with vulnerable populations, with the inverse also being true.⁵

State legislators and policymakers have historically attempted a variety of legislative and policy approaches to address the problem of recruiting and retaining highly qualified teachers. However, to date, none of these attempts have fully succeeded in solving, or significantly decreasing, teacher shortages across the U.S. Further, many such policies have also led to problematic unintended consequences as well. Fernandez, Loya, & Oseguera have used the term “blunt instrument” to describe poorly thought-out policies that not only do not solve the

superintendent for 14 years. Bryan conducts research in educational leadership, teacher evaluation, the recruitment and retention of school personnel, gender issues in hiring, and socialization theory.

1 David W. Grissmer & Sheila Nataraj Kirby, *Teacher Attrition: The Uphill Climb to Staff the Nation's Schools* (1987).

2 Jeremy Glazer, *Learning from those who no longer teach: Viewing teacher attrition through a resistance lens*, 74 *Teaching & Tchr. Educ.* 62, 62-71 (2018); Leib Sutcher, Linda Darling-Hammond & Desiree Carver-Thomas, *A coming crisis in teaching? Teacher supply, demand, and shortages in the US.*, Learning Policy Institute (Sept. 15, 2016), <https://learningpolicyinstitute.org/product/coming-crisis-teaching>.

3 Leib Sutcher, Linda Darling-Hammond & Desiree Carver-Thomas, *A coming crisis in teaching? Teacher supply, demand, and shortages in the US.*, Learning Policy Institute (Sept. 15, 2016), <https://learningpolicyinstitute.org/product/coming-crisis-teaching>.

4 Derek W. Black, *Taking teacher quality seriously*, 57 *Wm. & Mary L. Rev.* 1597 (2015); William E. Thro, *Who, what, why, & how: Reimagining state constitutional analysis in school finance litigation*, 2021 *BYU Educ. & L.J.* (forthcoming 2021).

5 Raj Chetty, John N. Friedman & Jonah E. Rockoff, *Measuring the impacts of teachers II: Teacher value-added and student outcomes in adulthood*, 104 *Am. Econ. Rev.* 2633, 2633-79 (2014); Robert J. Marzano, *A new era of school reform: Going where the research takes us* (2001).

target problem but also create new sets of problems.⁶ Two examples of such policies follow.

A. Rising qualifications and professionalization of the teacher population

One policy approach to addressing teacher shortages is legislative increases in teacher qualifications and licensure, with the intent of creating a more “highly qualified” teaching force.⁷ While many stakeholders were initially optimistic about the merits of this approach, some states have since found that the long-term impact of this policy has actually been an overall decrease in the numbers of practicing teachers. Ironically, in many of these states, researchers note that the teaching force has ended up not just smaller, but also less qualified, overall, than it was before such policies were implemented.⁸

This result seems counterintuitive. One of the ways it came about was due to the highly complex nature of the portion of a federal policy intended to ensure that teachers were “highly qualified.”⁹ After the policy took effect, many school leaders were surprised to discover that, under the provisions of the new policy, they were forced to dismiss or reassign teachers who had previously met, or even surpassed, highly rigorous state certification standards, and who had a clear track record of successful teaching. This was usually because many teachers’ certification background failed to meet some criteria (and sometimes just a single criterion, such as not having taken a specific university course for the content area they had been teaching) in the federal policy definition of what now constituted a “highly qualified” teacher.¹⁰ Adding insult to injury, many of these newly vacated teaching posts then remained unfilled by a qualified teacher of any kind for an extended period, since no candidates meeting the new “highly qualified” definition were available. Ironically, many such posts had

⁶ F. Fernandez, Karla I. Loya & L. Oseguera, *How public-private partnerships contribute to educational policy failure in Educational Policy Goes to School* 83, 83-95 (2017).

⁷ See 82 Ohio Jur. 3d, Schools, Universities, and Colleges §236; No Child Left Behind Act, 20 U.S.C. §6301 §6319.

⁸ Barnett Berry, *No shortcuts to preparing good teachers*, 58 Educ. Leadership 32, 32-36 (2001); Richard Ingersoll, *The teacher shortage: A case of wrong diagnosis and wrong prescription*, 86 NASSP Bulletin 16, 16-31 (2002);

⁹ No Child Left Behind Act of 2001, 20 U.S.C. § 6319 (2002).

¹⁰ No Child Left Behind Act of 2001, 20 U.S.C. § 6319 (2002); W. Va. Dept. Educ. (Aug. 9, 2006), <https://wvde.state.wv.us/news/1249/>.

to ultimately be filled by individuals who had limited, or even no, teaching credentials or experience (e.g. long-term substitutes, interns, and individuals pursuing alternate routes to licensure [ARL]).¹¹ In fact, some states have been so hard-pressed to find sufficient numbers of “highly qualified” teachers to fill their classrooms that they have had to resort to pushing back against the federal policy with legislation of their own that eliminates (or temporarily suspends) many of the traditional requirements to becoming a teacher.¹²

In addition to the obvious pedagogical (and other) problems created by filling classrooms with underqualified teachers, such policies have also had the unintended consequence of actually increasing teaching shortages. Underprepared teachers leave the profession at significantly higher rates than traditionally prepared teachers (in some cases they are twice as likely to leave). Thus, counterintuitively, requiring a more “highly qualified” teaching force has, in some cases, actually created a less qualified teaching force *and* worsened teacher shortages. And the response of some states to this problem – significantly lowering requirements to teaching in order to fill newly empty classrooms – has, again counterintuitively, served to exacerbate teacher shortages even *more*.¹³

A second policy approach to the teacher shortage problem involved the assumption that policymakers and legislators can explain and solve teacher shortages by gaining an understanding of teacher behaviors that are traceable to the personal characteristics of the teachers themselves. This led to much research and effort invested in identifying the most desirable traits in potential new teachers, and then recruiting individuals possessing those traits. There has been, however, little consequent improvement in teacher shortages as a result of this investment of resources.¹⁴ The literature on teacher shortages has since made it clear that the presence (or lack) of such characteristics does not seem to be the driving force behind teacher

11 Olivia N. Saracho & Bernard Spodek, *Early childhood teachers' preparation and the quality of program outcomes*, 177 *Early Child. Dev. & Care* 71, 71-91 (2007).

12 Valerie Strauss, *In Utah, schools can now hire teachers with no training whatsoever*, *Washington Post* (Aug. 15, 2016), <https://www.washingtonpost.com/news/answer-sheet/wp/2016/08/15/in-utah-schools-can-now-hire-teachers-with-no-training-whatsoever/>.

13 Barnett Berry, *No shortcuts to preparing good teachers*, 58 *Educ. Leadership* 32, 32-36 (2001); R. Ingersoll, L. Merrill & D. Stuckey, *Seven Trends: The Transformation of the Teaching Force*. CPRE Research Report #RR-80, (2014).

14 Janine L. Certo & Jill Englebright Fox, *Retaining quality teachers*, 86 *High Sch. J.* 57, 57-75 (2002).

shortages.

The unintended consequence of this emphasis of policymakers on identifying “ideal” teacher characteristics and then hiring teachers who possessed them is that it caused a misdiagnosis of the actual nature of the teacher shortage problem, thus delaying the development of policies that would have had much greater chances of success. While policymakers and administrators pursued a quest for greater numbers of “ideal” teachers (fueled by the ongoing conceptualization of the teacher shortage problem as being a lack in teacher *supply*), the teaching profession has continued to hemorrhage even more of its practicing teachers.¹⁵

Even as education researchers sounded the alarm by pointing to research showing that teacher *retention* factors are a much more effective place to invest finite resources than in factors related to teacher *supply*, policymakers and legislators have been slow to respond.¹⁶ It turns out that, as far as the likelihood of teachers leaving the profession is concerned, it doesn’t seem to make a great deal of difference if a teacher’s personal characteristics are “ideal” or not, if that teacher is then subjected to poor work conditions over an extended period of time. Such organizational conditions include challenges with student motivation and discipline, insufficient planning time, inadequate facilities and resources, inadequate support from school administration, poor relationships with school administrators, large class sizes, low salary, lack of faculty input in school decision-making, expanding work roles for teachers, few opportunities for teacher advancement, teacher morale and stress, teachers’ physical safety, and a host of others.¹⁷

¹⁵ ;Sam Brill & Abby McCartney, *Stopping the revolving door: Increasing teacher retention*, 36 Pol. & Pol’y 750, 750-74 (2008); Richard Ingersoll, *Teacher turnover, teacher shortages, and the organization of schools*, 38 Am. Educ. Res. J. 499, 499-534 (2001).

¹⁶ Elaine Allensworth, Stephen Ponisciak & Christopher Mazzeo, *The Schools Teachers Leave: Teacher Mobility in Chicago Public Schools* (2009); Richard Ingersoll, *Teacher turnover, teacher shortages, and the organization of schools*, 38 Am. Educ. Res. J. 499, 499-534 (2001); Susan Moore Johnson, *The Workplace Matters: Teacher Quality, Retention, and Effectiveness*. Working Paper (2006); Helen F. Ladd, *Teachers’ Perceptions of Their Working Conditions: How Predictive of Policy-Relevant Outcomes?* (2009); Matthew J. Mayer & Michael J. Furlong, *How safe are our schools?* 39 Educ. Res. 16, 16-26 (2010); Daniel A. Sass, Andrea K. Seal & Nancy K. Martin, *Predicting teacher retention using stress and support variables*, 49 J. Educ. Admin. 200, 200-15 (2011); Sharif Shakrani, *Teacher turnover: Costly crisis, solvable problem* (2008).

¹⁷ Richard M. Ingersoll & Thomas M. Smith, *The wrong solution to the teacher shortage*, 60 Educ. Leadership 30, 30-33 (2003).

I. SUMMARY OF TEACHER ATTRITION RESEARCH

A. Teacher Attrition has Greater Effect on Teacher Shortages than Student Enrollments or Teacher Recruitment

Some attrition within the teaching profession is unavoidable, and a moderate amount of attrition can even be seen as beneficial.¹⁸ However, current attrition levels go beyond what might generally be considered to be “benign.” Although the exact percentage of teachers who leave the profession each year is unknown, the fact remains that an increasing number of teachers in the U.S. must be replaced each year, with a shrinking number of teachers remaining in the profession until retirement.¹⁹ This has created a problem that is greater than the sheer number of teachers who are no longer teaching in classrooms in the U.S., because for the first time in U.S. history many of those who are leaving are experienced, veteran teachers, who in years past would almost certainly have remained in the profession until retirement. This phenomenon has been referred to by Ingersoll, Merrill, and Stuckey as the “greening” of the teaching force.²⁰ Within the short period of approximately 25 years, the teaching force has recently shifted from the greatest number of teachers having 15 years teaching experience, to the modal years of experience being just five. Thus, the U.S. education system is not just losing large numbers of its teachers – it is losing the expertise and experience of many of its veteran teachers, who are now leaving the profession many years before normal retirement age.

This has led many education researchers to conclude that, as problematic as the decline in recruitment to the teaching profession is, the most concerning aspect of this situation is the problem of teacher attrition – the high rate of practicing teachers who choose to

¹⁸ Gary Barnes, Edward Crowe & Benjamin Schaefer, *The Cost of Teacher Turnover in Five School Districts: A Pilot Study* (2007), <https://eric.ed.gov/?id=ED497176>.

¹⁹ Jeremy Glazer, *Learning from those who no longer teach: Viewing teacher attrition through a resistance lens*, 74 *Teaching & Tchr. Educ.* 62, 62-71 (2018); Lucinda Gray & Soheyla Taie, *Public School Teacher Attrition and Mobility in the First Five Years: Results from the First through Fifth Waves of the 2007-08 Beginning Teacher Longitudinal Study*, 2015 Nat'l Ctr. For Educ. Stat. (2015); Richard Ingersoll, Lisa Merrill & Daniel Stuckey, *Seven trends: The transformation of the teaching force* (2014); Carol R. Rinke, *Why half of teachers leave the classroom: understanding recruitment and retention in today's schools* (2014).

²⁰ Richard Ingersoll, Lisa Merrill & Daniel Stuckey, *Seven trends: The transformation of the teaching force* (2014).

leave the teaching profession each year for reasons other than retirement. The profession appears to be “bleeding” existing teachers faster than it can replace them. Thus, it does not seem logical to expend great efforts to increase the flow of new teachers into the profession if so many of them are just going to be lost later on anyway. In other words, according to Certo and Fox, the problem has been misdiagnosed for many years as a problem of recruitment, when it is really a problem of retention.²¹ Ideally, we would address both problems simultaneously; however, it is not currently clear that there are coordinated efforts to do so.

In fact, a review of the literature on teacher shortages suggests that efforts to solve the shortage problem tend to be disjointed, and do not address the key aspects of the problem simultaneously and comprehensively, which has been identified as a requirement in order to successfully address the problem.²² For example, recent improvements to compensation packages for teachers in many states (to make the profession more attractive to potential recruits), as well as bonuses offered to professionals in other professions (in order to persuade them to abandon their current profession for teaching) do not address the key issues affecting teacher supply. While perhaps beneficial to some extent, these efforts have been inadequate, and have also been undermined by some of the very policies that were intended to help reduce teacher shortages. For example, the advent of merit-pay policies, based on assessment and accountability mandates as well as unsubstantiated beliefs about the psychology of motivation, have driven many teachers to either retire prematurely or leave teaching for other professions.²³ Additionally, many policy efforts to get more teachers in the classroom are ill-fitting “quick-fix,” labor market approaches (e.g. Teach for America, and other programs designed to recruit individuals with no teaching experience or training for short stints as teachers before they move on to something else), which risk harming children by putting underprepared teachers in classrooms. Many of these teachers with little previous background in

21 Janine L. Certo & Jill Englebright Fox, *Retaining quality teachers*, 86 High Sch. J. 57, 57-75 (2002).

22 Rebecca Spooner-Lane, *Mentoring beginning teachers in primary schools: Research review*, 43 Prof. Dev. Educ. 253, 253-73 (2017).

23 Nathan A. Bramble, *Merit and Performance-based Pay* (2009) (unpublished M.S. thesis, St. John Fisher College) (on file with the Lavery Library, St. John Fisher College).

education quickly leave the profession at rates much higher than those of traditionally prepared teachers, thereby actually intensifying teacher shortages, as mentioned above.²⁴

Teacher recruitment has historically been the focus of much of the education policy and law designed to solve teacher shortages, to the detriment of the more important issue of teacher retention. Yet, even when policymakers and legislators have attempted to direct resources towards improving teacher retention, the resulting policies have often left much to be desired. Mentoring and induction programs for new teachers, for example, have been one of the main policy solutions that have specifically focused on the retention aspect of the teacher shortage problem. However, the mentoring and induction programs in many states have been heavily criticized by many education evaluators and researchers, as they are often poorly implemented and operated, and have widely varying success rates, with some researchers suggesting they might do more harm than good.²⁵ A second example is policies designed to increase teacher compensation, which has consistently been one of the most popular policy approaches to increasing teacher retention (as well as teacher recruitment). However, after years of disjointed attempts at using policies of increasing compensation to try to solve the teacher shortage – whether aimed at recruitment or retention – the literature clearly shows that such policies have not effectively solved the teacher shortage problem, and may have even unintentionally made it worse in many cases.²⁶ Thus, while teacher pay is certainly a matter of perennial concern to teachers and stakeholders, it seems to provide only a partial solution to the problem; possibly because, as previous studies have found, for many teachers pay is not the only (or even the most) pressing concern motivating their choice to either leave or remain in the profession.²⁷ Studies of this problem have consistently revealed that there exist

²⁴ Ryan Fiereck et al., Smart solutions to Minnesota's teacher shortage: Developing and sustaining a diverse and valued educator workforce (n.d.).

²⁵ Helen Colley, *A "rough guide" to the history of mentoring from a Marxist feminist perspective*, 28 J. EDUC. FOR TEACHING 257, 257-73 (2003); Rebecca Spooner-Lane, *Mentoring beginning teachers in primary schools: Research review*, 43 Prof. Dev. Educ. 253, 253-73 (2017).

²⁶ Tori L. Colson & Clint Satterfield, *The effects of strategic compensation on teacher retention*, 10 Power & Educ. 92, 92-104 (2018); Rusty Grimm, *An Analysis of the Relationship Between Value-Added Compensation, Student Achievement and Teacher Retention by Campus* (2017) (unpublished Ph.D. dissertation, Tarleton State University).

²⁷ Anne Cockburn & Terry Haydn, *Recruiting and Retaining Teachers: Understanding Why Teachers Teach* (2004).

other explanations for why teachers leave the profession that may be as important as, or even more important than, teacher salaries.²⁸ Some of these explanations follow.

B. Policymakers Need to Become More Familiar with Educational Research

Policymakers and legislators need better data and more familiarity with research to successfully address teacher attrition, including addressing issues of persuading effective teachers to stay in the profession, and ensuring that ineffective teachers do not get into the profession in the first place.²⁹ It is difficult to know what research base policymakers and legislators draw upon to address education-policy decisions.³⁰ Many current policies are not promising nor effective in addressing teacher shortages and retention, and many researchers assert that these policies are not supported by research.³¹

This is not to say that policymakers and legislators should necessarily be engaging in the “direct, unmediated [use of] data in decision-making; from spreadsheets to directives.” In fact, some education researchers advocate the erection of “an organizational wall between data and decision-making,” where researchers “play the role of intermediaries, interpreting data for . . . policymakers.”³² This is an important distinction to make, given that the world of research is replete

²⁸ Christopher Harrison, *Advocacy groups and the discourse of teacher policy reform: An analysis of policy narratives*, 92 *Peabody J. Educ.* 42, 42-52 (2017); Daniel A. Sass, Andrea K. Seal & Nancy K. Martin, *Predicting teacher retention using stress and support variables*, 49 *J. Educ. Admin.* 200, 200-15 (2011); Einar M. Skaalvik & Sidsel Skaalvik, *Teacher stress and teacher self-efficacy as predictors of engagement, emotional exhaustion, and motivation to leave the teaching profession*, 7 *Creative Educ.* 1785 (2016).

²⁹ Matthew M. Chingos & Paul E. Peterson, *It's easier to pick a good teacher than to train one: Familiar and new results on the correlates of teacher effectiveness*, 30 *Econ. Educ. Rev.* 449, 449-65 (2011); Martin Haberman, *Raising teacher salaries: The funds are there*, 125 *Educ.* 327, 327-42 (2005).

³⁰ Sue E. Brennan, Joanne E. McKenzie, Tari Turner, Sally Redman, Steve Makkar, Anna Williamson, Abby Haynes & Sally E. Green, *Development and validation of SEER (Seeking, Engaging with and Evaluating Research): A measure of policymakers' capacity to engage with and use research*, 15 *Health Res. Pol'y & Sys.* 1 (2017).

³¹ Rick DuFour & Mike Mattos, *How do principals really improve schools?* 70 *Educ. Leadership* 34, 34-40 (2013); Andy Jacob & Kate McGovern, *The Mirage: Confronting the Hard Truth and Our Quest for Teacher Development* (2015).

³² A. M. Sidorin, *Campbell's Law and the Ethics of Immensurability*, *Studies in Philosophy and Education*, 35, 4, 321-332 (2016).

with perilous caveats that are often counterintuitive (or even invisible) to the uninitiated.³³ Data, and its findings and caveats, when misunderstood or overlooked, can lead to “uncritical interpretation[s] of research findings,” and, therefore, bad policy (e.g. the recent, rapid spread through the U.S. of policies reflecting the belief that the relationships that form the nexus of the culture of schooling (as well as other public goods) are, or should be, based on a market habitus).³⁴ However, it is, again, unclear to what degree policymakers are currently availing themselves of the services of education researchers as intermediaries in the process of interpreting educational research for the purpose of policymaking. Indeed, it remains unclear to what degree policymakers are even aware of much of the extant educational research, including the factors shown by that research to have the greatest impact on teacher supply and retention.

A list of the most important of these factors, identified in the research literature as being likely to have some influence on teachers’ decisions to remain in or leave the profession, are presented in Table 1 below. However, much of this literature is based on previous periods of teacher shortage. Thus, it is important to conduct new, original research to better understand the important (and potentially unique) aspects of the current teacher shortage crisis, as well as to identify potential solutions.³⁵

In order to provide just such original research, which could potentially help policymakers enact legislation and policy, the current study began with an examination of the various factors identified from previous research as potentially affecting teacher shortages. These factors, listed in Table 1, were used to develop items for the data collection instruments employed in this study. The goal was that this study would take a deep dive within a one-state setting to determine actual factors teachers implicate as impacting job conditions and likelihood of remaining in the profession. Open-ended, free-response items were also provided for the teachers participating in the study to write in any other factors that may have been important for their thoughts of leaving or staying in the profession, but which may not

³³ (Sidorkin, 2015) (insufficient info to bluebook)

³⁴ Pierre Bourdieu, *Practical Reason: On the Theory of Action* (1998); James Q. Wilson, *Bureaucracy: What government agencies do and why they do it* (1989); Sidorkin, 2015, p. 331 (insufficient info to bluebook)

³⁵ Jeremy Glazer, *Learning from those who no longer teach: Viewing teacher attrition through a resistance lens*, 74 *Teaching & Tchr. Educ.* 62, 62-71 (2018).

2] Law & Policy Impacts on Teacher Attrition

have been included in the instrument (because they were not identified in previous literature).

Table 1

General Factors Included in this Analysis Believed to Influence Teacher Attrition

Factor	Source
Gender	Ingersoll et al., 2014; Guarino et al., 2006
Personal factors/life issues	Borman & Dowling, 2008
Altruism/fulfillment	Bennett et al., 2013; Cockburn & Haydn, 2004
Work conditions/job satisfaction	Goldring, Taie, & Riddles, 2014; Burkhauser, 2017
School leadership	Burkhauser, 2017; Ladd, 2011; Grant, 2017
Teaching experience	Ingersoll et al., 2014; Guarino et al., 2006
Career goals	Guarino et al., 2006; Glazer, 2018
Self-efficacy (teacher preparation)	Mayer et al., 2017; Guarino et al., 2006
Respect/support	Arnup & Bowles, 2016; Bennett et al., 2013
Compensation	Burkhauser, 2017; Gray & Taie, 2015

Note. Multiple sources exist for each general factor. In addition, each factor has various aspects associated with it.

II. METHODS

This study was based on survey data from a sample of practicing teachers in school districts in one state. Based on factors that have been cited in previous research (see Table 1) as affecting teacher attrition, this study used a predictive regression analysis to identify which factors best predicted teachers' thoughts of leaving the profession.

A. Participants

Recognizing that perspectives may differ by location,³⁶ this study consisted of a survey of teachers currently serving in public schools in multiple school districts across one state in the western

³⁶ Geoffrey D. Borman & N. Maritza Dowling, *Teacher Attrition and Retention: A Meta-analytic and Narrative Review of the Research*, 78 *Rev. Educ. Res.* 367, 367-409 (2008); Jeremy Glazer, *Learning from those who no longer teach: Viewing teacher attrition through a resistance lens*, 74 *Teaching & Tchr. Educ.* 62, 62-71 (2018).

United States. Of 41 school districts that were invited to participate, 15 (approximately 36%) allowed the authors to send invitations to all of their teachers to participate in an anonymous survey through their email system (the denial of permission to invite and gather responses is an unavoidable limitation when conducting research with human subjects). The smallest of these districts employed 72 teachers; the largest employed 2245. These participating school districts include rural, suburban, and urban settings from various geographic regions across the state, thus providing diverse, fairly representative coverage. After incomplete questionnaires were removed, 2003 participants' responses were used in this analysis, of whom 1533 (77%) were from females. Within these 15 participating school districts, the teacher response rate to the questionnaire was estimated to be approximately 34%.

B. Data Collection and Analysis

Questionnaire items were developed, tested, and refined for each specific factor. The primary dependent variable for these items was how often teachers thought of leaving the teaching profession. Data for the dependent variable were obtained using a 6-point Likert scale, with response options that ranged from *never* to *often*. For the purpose of simplicity in reporting results, the scale was later collapsed into three categories (e.g. the highest response category was redefined as teachers thinking of leaving the profession at least once per month (daily, weekly, or monthly) and the lowest response category was redefined as teachers thinking of leaving the profession a few times a year or less).

After data collection was complete, a predictive regression analysis was used, which involved regressing all of the survey items developed from each of the major teacher attrition factors identified in the literature (see Table 1) on the dependent variable *thoughts of leaving the profession*, to determine which of those factors best predicted a teacher's thoughts of leaving. Exploring the results of this analysis further, we also conducted a predictive analysis using satisfaction with one's current position as a dependent variable, regressing on separate workplace factors determined in the literature to be important. Descriptive statistics disaggregated on the dependent variables were then used to further review the most highly predictive factors.

C. Results

After ensuring the assumptions (linearity, independence, normality, equality of variance, and multicollinearity) for using this type of analysis were met, an analysis of the regression results revealed three factors as highly predictive of teachers' thoughts of leaving the profession. These include (a) career goals, (b) satisfaction with current position, and (c) adequacy of compensation. An additional three factors were statistically significant, but had low effect sizes, including (a) self-efficacy as a good teacher, (b) altruism, and (c) job security (see Table 2). A teachers' career goals was the strongest predictor of the dependent variable. The effect size suggests that a teacher's career goals accounts for approximately 9% of the variance in the regression. A teacher's satisfaction with their current position, as well as their beliefs regarding compensation, were also highly predictive of their thoughts of quitting. The effect sizes for these factors were noteworthy, and accounted for 6.3% and 4.8% of the variance in the regression, respectively. The other three statistically significant factors mentioned above each accounted for less than 1% of the variance. Statistically non-significant factors (those not meeting the alpha threshold of .05) are listed in Table 3. While we cannot say these factors were not considered by teachers, based on this analysis they were not measured as having significant statistical influence as a predictor of teachers' thoughts of leaving the profession.

Table 2*Factors that were Predictive of Teachers Thinking of Leaving the Profession*

Factor or Perception	Significance	Beta	ES	Influence
Career goals	< .001	.048	.090	High
Satisfaction with current position	< .001	.400	.063	High
Adequacy of Compensation	< .001	.259	.048	High
Self-efficacy as a teacher	.001	.180	.009	Moderate
Altruism (teaching as "noble profession")	.007	.092	.004	Moderate
Job Security	.024	.032	.004	Moderate

Table 3

Factors Found to not be Predictive of Teachers Thinking of Leaving the Profession

Factor or Perception	Significance	Beta	Influence
Total years of teaching	.064	.062	Low/none
Difficulty of changing jobs	.088	-.036	Low/none
Consistency with lifestyle	.088	.016	Low/none
Need for income	.120	.052	Low/none
Need for benefits	.225	.038	Low/none
Compensation compared with other jobs	.314	-.026	Low/none
Responsibility as sole provider	.331	.016	Low/none
Longevity at current school	.436	.011	Low/none
Gender	.494	.050	Low/none
Proximity to Retirement	.560	.016	Low/none

III. HIGHLY PREDICTIVE FACTORS FOR THOUGHTS OF QUITTING

The factors that were most important in predicting teachers' thoughts of leaving, in this study, are presented below, in order of greatest to least importance. After presenting these results, a discussion of their possible interpretation and meaning follows, in the Discussion section.

A. Career Goals

Study results showed that teachers' thoughts of leaving the profession were strongly influenced by their career goals. As noted by Glazer,³⁷ many teachers today do not plan to teach to retirement; in fact, not all who enter the profession intend to stay very long (see Table 4). Some may have plans to move into administration, while others plan to stop working for personal reasons, and still others intend to move on to a "better" job. Others who may have initially intended to stay longer may find that they do not like teaching, or that they do not

³⁷ Jeremy Glazer, *Learning from those who no longer teach: Viewing teacher attrition through a resistance lens*, 74 *Teaching & Tchr. Educ.* 62, 62-71 (2018).

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feel that they are particularly good at teaching. Whatever the reason, 34% of survey respondents indicated they plan to continue teaching no more than five years. Of these respondents, 23% had taught five years or less (8% of all respondents) and 17% had taught for six to 10 years (6% of all respondents). For individuals like these, teaching seems to be considered a job, not a career.

These findings are consistent with those of other researchers, including some early research that found that teachers' pursuit of other jobs was a much more significant problem for the teacher shortage than other issues that legislators and policymakers were focusing on at the time, such as the teacher supply.³⁸ Adding to the complexity and depth of this problem is the possibility that this factor interacts with other important contributing causes of the teacher shortage, such as the "self-efficacy" and "altruism" factors (see below). If this is the case, then these factors likely work together in highly complex ways, many of which may be "invisible" to legislators and other policymakers, further complicating the prospect of solving the teacher shortage through simple, one dimensional legislation or policy initiatives. A more in-depth exploration of how these factors might interact with each other can be found in the Discussion section, below.

Table 4
Teachers' Thoughts of Leaving the Profession Disaggregated by Career Goals

Frequency of thoughts of leaving	Percentage planning to teach additional years					n
	0 to 5 more yrs.	6 to 10 more yrs.	11 to 15 more yrs.	16 to 20 more yrs.	21 or more yrs.	
Not very often	23%	21%	15%	20%	21%	1260
Often	54%	18	10%	11%	7%	688
All respondents	34%	20%	13%	17%	16%	1948

Note. Response distributions statistically different. $\chi^2(4) = 217.4$, $p < .001$.

³⁸ Richard Ingersoll, *Teacher turnover, teacher shortages, and the organization of schools*, 38 Am. Educ. Res. J. 499, 499-534 (2001).

B. Workplace Satisfaction

This factor was the second most influential predictor of how often a teacher considered quitting. From the results presented in Table 5, it is clear that satisfaction with the conditions at one's workplace is important. Overall, 75% of the respondents indicated they were satisfied with their current position. However, only 55% of those teachers who identified that they often thought of leaving also agreed that they loved their current teaching position, compared to 85% of those who rarely thought of quitting. Further analyses regarding factors that predict workplace satisfaction are presented later in this study.

Of all the factors related to teacher shortages, this one seems to be the most important, as a matter of law and policy, because, along with the factor of teacher compensation, this is the factor that legislators and other policymakers have the most control over. Research has consistently shown that teachers' workplace conditions are deteriorating, directly leading to more and more teachers leaving the profession.³⁹ Thus, this factor almost certainly puts pressure on many (if not all) of the other factors that influence teachers' thoughts of leaving (see further elaboration in the Discussion section, below).

Table 5

Teachers' Thoughts of Leaving the Profession Disaggregated by Satisfaction with Current Position

Frequency of thoughts of leaving	I love my current position			% who considered this important or very important
	Disagree	Somewhat	Agree	
Not very often	1%	14%	85%	90%
Often	9%	36%	55%	73%
All respondents	4%	22%	74%	84%

Note. Response distributions statistically different. $\chi^2(5) = 271.9$, $p < .001$.

C. Compensation

Low salary is widely publicized as a leading cause of teacher attrition.⁴⁰ However, respondents to this study were influenced more

³⁹ Elaine Allensworth, Stephen Ponisciak & Christopher Mazzeo, *The Schools Teachers Leave: Teacher Mobility in Chicago Public Schools* (2009).

⁴⁰ Susan Burkhauser, *How much do school principals matter when it comes to teacher*

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by their career goals and workplace satisfaction than they were by salary levels. Still, teachers who indicated dissatisfaction with their pay were fairly likely to frequently consider dropping out of the profession (see Table 6). Regardless of how long they had been teaching, 57% of respondents agreed that teachers are not paid well and 85% considered salary an *important* or *very important* consideration when making a decision to remain a teacher. This factor seemed to be more important when teachers were also dissatisfied with their current work situation. If this is the case, then it fits the pattern revealed in this study of multiple factors working together in complex ways to shape teachers' thoughts about staying or leaving (see further elaboration in the Discussion section, below).

Table 6

Teachers' Thoughts of Leaving the Profession Disaggregated by Perception of Compensation

Frequency of thoughts of leaving	% who feel compensation is adequate			% who considered this as important or very important
	Disagree	Somewhat	Agree	
Not very often	49%	42%	9%	83%
Often	73%	24	3%	91%
All respondents	57%	36%	7%	85%

Note. Response distributions statistically different. $\chi^2(5) = 122.4$, $p < .001$.

IV. MODERATELY INFLUENTIAL FACTORS FOR THOUGHTS OF QUITTING

The following factors were statistically significant in the regression analysis, but each had low effect sizes, meaning they each accounted for less than 1% of the regression result. Each of these factors likely provides context for individual decisions about leaving the teaching profession, and may interact with those decisions in complex and potentially "invisible" ways.

working conditions? 39 *Educ. Evaluation & Pol'y Analysis* 126, 126-145 (2017); Lucinda Gray & Soheyyla Taie, *Public School Teacher Attrition and Mobility in the First Five Years: Results from the First through Fifth Waves of the 2007-08 Beginning Teacher Longitudinal Study*, 2015 Nat'l Ctr. For Educ. Stat. (2015).

A. Self-Efficacy

Of those teachers who rarely thought about leaving the profession, 89% felt they were good teachers; while of those who often considered leaving, only 65% considered themselves capable or successful teachers. Self-efficacy (i.e., the perception of self as capable) tends to be somewhat predictive of whether a teacher thinks often about leaving (see Table 7).⁴¹ Of the teachers sampled in this study, 89% indicated they felt it was important to believe they were doing their job well if they were planning to stay in the profession.

Table 7

Teachers' Thoughts of Leaving the Profession Disaggregated by Self-Efficacy

Frequency of thoughts of leaving	Perception of self as "a good teacher"			% who considered this as important or very important
	Disagree	Somewhat	Agree	
Not very often	0	11%	89%	94%
Often	4%	31%	65%	80%
All respondents	2%	18%	80%	89%

Note. Response distributions statistically different. $\chi^2(5) = 196.7$, $p < .001$.

B. Altruism

This factor refers to teachers' beliefs that they are making a difference, that what they do is important. Those with altruistic feeling towards teaching often see the career as a "calling".⁴² Teachers who rarely thought about quitting tended to have slightly higher feelings of altruism than those who often thought of leaving (93% and 82% respectively) (see Table 8). This factor was, however, less meaningful in terms of import. Only 71% of teachers felt it was important that they see teaching as a noble pursuit in order to continue teaching.

⁴¹ Albert Bandura, *Self-efficacy: Toward a unifying theory of behavioral change*, 84 Psychol. Rev. 191, 191-215 (1977).

⁴² Susan V. Bennett, John J. Brown Jr, Antionette Kirby-Smith & Beth Severson, *Influences of the heart: novice and experienced teachers remaining in the field*, 17 Tchr. Dev. 562, 562-76 (2013).

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Table 8*Teachers' Thoughts of Leaving the Profession Disaggregated by Altruism*

Frequency of thoughts of leaving	Perceive Teaching as Noble			% who considered this as important or very important
	Disagree	Somewhat	Agree	
Not very often	2%	5%	93%	74%
Often	5%	13%	82%	68%
All respondents	3%	8%	89%	71%

Note. Response distributions statistically different. $\chi^2(5) = 54.5$, $p < .001$.

C. Job Security

While possibly less impactful, job security was also a statistically significant factor in predicting a teacher's thoughts of leaving. Most teachers (67%) agreed or strongly agreed their job was secure. Those who often thought of leaving were less likely to agree their jobs were secure (see Table 9). This factor also seemed to be less important to teachers, with only 63% indicating it was an important factor in their decision to remain teaching.

Table 9*Teachers' Thoughts of Leaving the Profession Disaggregated by Job Security*

Frequency of thoughts of leaving	Perceived Job Security			% who considered this as important or very important
	Disagree	Somewhat	Agree	
Not very often	5%	23%	72%	68%
Often	9%	35%	56%	55%
All respondents	6%	27%	67%	63%

Note. Response distributions statistically different. $\chi^2(5) = 69.4$, $p < .001$.

V. ANALYSIS OF INFLUENTIAL FACTORS THAT PREDICT WORKPLACE SATISFACTION

Given the importance of workplace satisfaction in the literature on teacher attrition (which was confirmed by the results of this study – see Table 2), items were included in the survey instruments that allowed this factor to be explored further, in order to determine which aspects of the job best predicted teachers' satisfaction with their current position. This analysis identified two highly influential predictive

factors of workplace satisfaction (see Table 10); these include teachers' beliefs that (a) expectations of teachers are reasonable, and (b) students are well behaved and care about learning. A teacher's belief that expectations in the workplace were reasonable accounted for 6% of the variance in this analysis, while beliefs about student behavior accounted for 1.6% of the variance. Other factors found to be statistically significant as predictive factors each accounted for less than one percent of the variance (0.3% on average). These factors include beliefs about whether (a) teachers receive support for data analysis, (b) there exists a trusting and supportive environment at their school, (c) the principal has a clear vision for improving learning, and (d) there are opportunities for quality professional development. Statistically non-significant factors (those not meeting the alpha threshold of .05) are listed in Table 11.

These findings are highly consistent with those of other researchers, who found that problems of workplace satisfaction are, perhaps, the single greatest contributing factor to teacher attrition, and therefore to the teacher shortage problem.⁴³ The twin problems of expectations of teachers being too high and of student behavior and motivation for learning (the two highest predictors in this study of teachers' workplace satisfaction – see below) have been consistently identified by researchers as being among the most powerfully impactful factors affecting teacher attrition.⁴⁴

Table 10

Factors that were Predictive of Teachers Loving their Current Position

Factor or Perception	Sig.	Beta	ES	Influence
Expectations of Teachers are Reasonable	< .001	.195	.060	High
Students are Well-Behaved and Care about Learning	< .001	.116	.016	High
Receive Support for Data Analysis	.015	.063	.003	Moderate
Have a Trusting/Supportive Environment at the School	.019	.061	.003	Moderate
Administrator's Vision for Improving learning	.030	.062	.003	Moderate
Opportunities for Quality Professional Development	.038	-.049	.002	Moderate

⁴³ Richard Ingersoll, *Teacher turnover, teacher shortages, and the organization of schools*, 38 Am. Educ. Res. J. 499, 499-534 (2001).

⁴⁴ Scott P. Harris et al., *Teacher Attrition: Differences in Stakeholder Perceptions of Teacher Work Conditions*, 9 Educ. Sci. (2019).

Table 11*Factors Found to not be Predictive of Teachers Loving their Current Position*

Factor or Perception	Sig.	Beta	Influence
Teachers are Evaluated Fairly	.179	.030	Low/none
Teacher Involved in School Decisions	.344	.023	Low/none
Have Adequate Resources	.493	.030	Low/none
Planning Time is Protected	.493	-.013	Low/none
People in the Community Respect Teachers	.834	.030	Low/none
Administrative Policy and Safety	.907	.003	Low/none

A. Highly Predictive Factors of Workplace Satisfaction**1. Expectations of Teachers**

The most predictive factor in determining satisfaction with a teacher's current position was whether the individual felt that expectations of teacher are reasonable (see Table 12). Overall, only 29% of teachers agreed or strongly agreed that expectations of teachers are reasonable, with those often thinking of leaving being more likely to feel that work expectations were unreasonable (48% compared to 18%).

Table 12*Teachers' Thoughts of Leaving Disaggregated by Belief that Work Expectations are Reasonable*

Frequency of thoughts of leaving	Work Expectation are Reasonable			% who considered this as important or very important
	Disagree	Somewhat	Agree	
Not very often	18%	45%	37%	75%
Often	48%	40%	12%	76%
All respondents	29%	42%	29%	76%

Note. Response distributions statistically different. $\chi^2(5) = 264.0$, $p < .001$.

2. Student Behavior

Another important predictive factor of a teacher's satisfaction

with their current position was student behavior. Only 19% of teachers agreed or strongly agreed that students are well behaved at school and care about learning (see Table 13), and it was more likely that teachers often thought of quitting when they felt students were not well behaved. Of interest is the fact that, while not a statistically significant factor in this analysis, teachers tended to feel that administrators did not effectively address student behavior and safety issues. Only 43% of all teachers felt that student behavior issues were managed adequately by administration. Of those who often thought of leaving, 50% held this opinion compared to 31% of those who rarely had thoughts of quitting.

Table 13

Teachers' Thoughts of Leaving Disaggregated by Perception of Students' Behavior

Frequency of thoughts of leaving	Students are Well Behaved			% who considered this as important or very important
	Disagree	Somewhat	Agree	
Not very often	22%	55%	23%	76%
Often	45%	43%	2%	80%
All respondents	30%	51%	19%	77%

Note. Response distributions statistically different. $\chi^2(5) = 157.7$, $p < .001$.

B. Moderately Predictive Factors of Workplace Satisfaction

1. Trusting/Supportive School Environment

While a teacher's belief that there was an environment of trust at their school was somewhat predictive of job satisfaction, only 53% of teachers agreed or strongly agreed that there was a trusting and supportive environment at their school. Based on the results presented in Table 14, teachers who often thought of leaving were less likely to feel trusted and supported at their school.

2] Law & Policy Impacts on Teacher Attrition**Table 14***Teachers' Thoughts of Leaving Disaggregated by Trusting/Supportive School Environment*

Frequency of thoughts of leaving	Trusting/Supportive School Environment			% who felt this is Important or Very Important
	Disagree	Somewhat	Agree	
Not very often	7%	33%	60%	90%
Often	22%	37%	41%	89%
All respondents	13%	34%	53%	90%

Note. Response distributions statistically different. $\chi^2(5) = 119.5$, $p < .001$.

2. *Administrators' Vision for Improving Learning*

It is widely accepted that, in order for schools to achieve their purpose of helping all students learn, they need more than just effective teachers – they also need effective administrators.⁴⁵ Teachers who agreed that the administration at their school had a good vision for improving student learning tended to be slightly less likely to consider quitting (see Table 15). Overall, however, only about half of the teachers participating in this study agreed that administrators in their school had a good vision for improving student learning.

Table 15*Teachers' Thoughts of Leaving Disaggregated by Administrator's Vision for Improving Learning*

Frequency of thoughts of leaving	Admin Vision to Improve Learning			% who felt this is Important or Very Important
	Disagree	Somewhat	Agree	
Not very often	6%	35%	59%	73%
Often	17%	43%	50%	65%
All respondents	10%	37%	53%	70%

Note. Response distributions statistically different. $\chi^2(5) = 98.1$, $p < .001$.

⁴⁵ James McLeskey & Nancy L. Waldron, *Effective leadership makes schools truly inclusive*, 96 Phi Delta Kappan 68, 68-73 (2015).

3. Opportunity Factors

Two factors that were statistically significant predictors of workplace satisfaction, but with low effect sizes, were (a) the opportunity to get support with data analysis, and (b) the opportunity to receive quality professional development. A majority of the teachers who participated in this study considered these factors to be important or very important, with those who often consider leaving being less likely to agree these conditions were being met in their schools (see Tables 16 and 17). Only about half the teachers in this study felt they had adequate support for data analysis and opportunities for quality professional development.

Table 16

Teachers' Thoughts of Leaving Disaggregated by Support with Data Analysis

Frequency of thoughts of leaving	Support for Data Analysis			% who felt this is Important or Very Important
	Disagree	Somewhat	Agree	
Not very often	6%	37%	57%	65%
Often	15%	46%	39%	55%
All respondents	9%	40%	51%	62%

Note. Response distributions statistically different. $\chi^2(5) = 84.8$, $p < .001$.

Table 17

Teachers' Thoughts of Leaving Disaggregated by Receiving Quality Professional Development

Frequency of thoughts of leaving	Quality Professional Development			% who felt this is Important or Very Important
	Disagree	Somewhat	Agree	
Not very often	7%	34%	59%	72%
Often	16%	40%	44%	59%
All respondents	10%	36%	54%	67%

Note. Response distributions statistically different. $\chi^2(5) = 72.2$, $p < .001$.

The above factors (predictors of workplace satisfaction) comprise many of the important workplace conditions of teachers. Given their importance to teachers' thoughts of quitting (recall that workplace satisfaction was the second most predictive factor in this study for teachers' thoughts of quitting), the authors compared these results with those of other recent studies examining the effects of teacher

work conditions on teacher leaving that were conducted on the teacher population in the same state as the present study. In the first of these studies, researchers examined the importance (to teachers) of each of a variety of workplace conditions, as well as the differences in how teachers, administrators, and parents perceive that these work conditions affect teacher leaving. The results of those studies corroborated the results of this study, finding that teacher work conditions play a very important role in teacher attrition; and also revealed significant differences in how the various stakeholder groups (especially teachers versus administrators) perceive teacher work conditions influencing teacher attrition.⁴⁶

According to Harris et al., administrators were much more likely to perceive teacher work conditions as being positive, while teachers were much more likely to perceive them as being negative.⁴⁷ This suggests that one of the most promising key factors in reducing teacher attrition rates might lie in helping administrators improve key aspects of teacher work conditions. This can prove to be a difficult task, even when administrators believe that teacher work conditions need to be improved, in part because some of the causes of poor teacher work conditions lie beyond the influence of local administrators to change.⁴⁸ However, the good news is that research has shown that there are teacher-leaving factors that school administrators *can* positively influence. These include such factors as teacher autonomy,⁴⁹ teacher influence in school management,⁵⁰ teacher perceptions of self-efficacy,⁵¹ levels of morale and stress within the school community,⁵² and “brokering” policy mandates (one of the vital functions of school administrators is to protect, or “buffer” teachers from

⁴⁶ Scott P. Harris et al., *Teacher Attrition: Differences in Stakeholder Perceptions of Teacher Work Conditions*, 9 Educ. Sci. (2019).

⁴⁷ *Id.*

⁴⁸ Richard M. Ingersoll & Thomas M. Smith, *The wrong solution to the teacher shortage*, 60 Educ. Leadership 30, 30-33 (2003).

⁴⁹ Susan Moore Johnson, *The Workplace Matters: Teacher Quality, Retention, and Effectiveness*. Working Paper (2006).

⁵⁰ Elaine Allensworth, Stephen Ponisciak & Christopher Mazzeo, *The Schools Teachers Leave: Teacher Mobility in Chicago Public Schools* (2009).

⁵¹ Thomas M. Smith & Richard M. Ingersoll, *What are the effects of induction and mentoring on beginning teacher turnover?* 41 Am. Educ. Res. J. 681, 681-714 (2004).

⁵² John Lambersky, *Understanding the human side of school leadership: Principals' impact on teachers' morale, self-efficacy, stress, and commitment*, 15 Leadership & Pol'y in Sch. 379, 379-405 (2016).

nonsensical or distracting policies and mandates imposed by higher-level administrators and policymakers),⁵³ among others.

A second recent study conducted in the same state as the present study showed that high school students who are considering a career in teaching do not usually think about work conditions for teachers when making career decisions.⁵⁴ This suggests, again, that improving work conditions for teachers might be an effective way to combat teacher attrition, as it is likely that one of the reasons for teachers leaving is due to the reality of teacher work conditions not being consistent with what teachers expected when they first considered the career.

VI. DISCUSSION

Laws and policies designed to improve teacher supply and retention, as noted above, may be inapposite and rife with unintended consequences if the factors explored above in this research are not considered. This is especially the case when such laws and policies are not informed by the best current educational research, and when they focus on simplistic, one-dimensional approaches to solving the teacher shortage, such as policies that simply increase teacher salaries but do nothing else. While teachers likely consider many factors when making career decisions (each of which will be influential to some degree), our analysis highlighted three factors that seemed to be generally predictive of teachers' thoughts of leaving. These include (a) teachers' career goals, (b) teachers' satisfaction with their current position, and (c) teachers' beliefs that they are adequately compensated for the job they do. Three other factors which were statistically significant also had low effect sizes. These include (a) teachers' self-efficacy, (b) altruistic feelings towards teaching, and (c) job security. These factors, then, should be the target for further legal and policy initiatives aimed at increasing the supply and, especially, the retention of qualified teachers.

⁵³ Agneta Hult, Ulf Lundström & Charlotta Edström, *Balancing managerial and professional demands: school principals as evaluation brokers*, 7 *Educ. Inquiry* (2016).

⁵⁴ Steven S Christensen, Randall S. Davies, Scott P. Harris, Joseph Hanks & Bryan Bowles, *Teacher Recruitment: Factors That Predict High School Students' Willingness to Become Teachers*, 9 *Educ. Sci.* 282 (2019).

A. Highly Predictive Factors for Thoughts of Quitting

Results of this research lead us to recommend that legal and policy responses focus on factors likely to influence teacher *retention* (e.g. improvement of organizational factors such as those mentioned above, to increase teacher workplace satisfaction which has been identified in this study and in the literature as a highly predictive factor for teacher thoughts of quitting). For example, as mentioned above, as a matter of policy and law it does little good to provide incentives (such as cash bonuses and slightly higher salaries) to get more people into the teaching profession, often by appealing to ideals such as “doing good in the world” and “saving children” (i.e., a policy emphasis on teacher *recruitment*) – especially if many such individuals have little or no teacher education experience – but then provide little to no support to help them succeed. When difficulties arise in the first few years of teaching (as they always do), the lack of support tends to lead to exhaustion, discouragement, and, isolation.⁵⁵ It is likely that as such a scenario continues, year after year (especially for the most underprepared, and especially if these individuals are teaching in high-risk schools, which is where many underprepared teachers are recruited to teach), it will have the effect of degrading such individuals’ sense of self-efficacy (i.e., belief that they are a good teacher), as well as their sense of altruism (if they have difficulty seeing any positive impact of their efforts on the lives of their students). It is easy to imagine how such a scenario could lead to a compounding effect on the influence of several, or all, of these teacher-leaving factors (some of which, when considered separately, are not in themselves highly predictive factors for thoughts of quitting or do not appear to be particularly influential), causing their effect on a teacher’s thoughts of leaving to be amplified in ways that are difficult to predict, or even to see from a policymaker’s outside perspective. It is only when considering the cumulative totality of the complex and interconnected dynamics of each of these factors (including how the factors potentially impact *each other*, as well as how they individually directly impact a teacher) that one can gain a sense for how complicated, and sometimes counter-intuitive, the forces that shape teachers’ thoughts

⁵⁵ Kendyll Stansbury & Joy Zimmerman, *Lifelines to the classroom: designing support for beginning teachers* (2000), https://www.wested.org/online_pubs/tchrbrief.pdf; Simon Veenman, *Perceived problems of beginning teachers*, 54 *Rev. Educ. Res.* 143, 143-78 (1984).

of leaving can be. The crafting of effective policy measures that will actually improve the problems of teacher-leaving will require this kind of complex, cumulative consideration of teacher-leaving factors going forward.

For example, if such a comprehensive approach to policy-making strengthened teachers' perceptions of factors such as altruism and/or self-efficacy, might some of the teachers who are currently planning to only teach for a short while change their minds about their career goals (which have been identified by this study and in the literature as a highly predictive factor for teacher thoughts of quitting) – precisely because they see themselves as good teachers and as positively influencing students' lives? Of course, improving the working conditions and status of the teaching profession may potentially do more than just raise retention, but could have an impact on recruitment as well, as potential teaching candidates note the rise in job satisfaction of the current teaching force.

B. Moderately Influential Factors for Thoughts of Quitting

It is probable that the above factors work with still other dynamics which are normally considered less influential on their own, in powerful (yet complex and invisible) ways as well. For example, in their rush to accountability, policymakers in many states have broadened teacher accountability processes to include the results of student and parent evaluations of teacher quality.⁵⁶ The inclusions of such accountability measures, while seemingly sensible on the surface, may actually exacerbate the very problems they are intended to solve. It may be that the most self-critical and reflective teachers (i.e., the kind that have the potential to become great teachers) are also those who tend to be most negatively impacted by narrowly rigid, formal, and inauthentic evaluation structures, such as those that are currently employed.⁵⁷ The potential negative impacts of focusing on teacher evaluation structures is not offset by their utility. A large scale meta-analysis of data on teacher evaluation questioned whether investment in teacher evaluation initiatives provide accurate data, and did not

⁵⁶ Laura Goe et al., *State of the states' teacher evaluation and support systems: A perspective from exemplary teachers*, 2017 ETS Res. Rep. Series 1, 1-27 (2017).

⁵⁷ David Boud, *Enhancing Learning Through Self-Assessment* (2013).

find empirical evidence that such evaluation data connects significantly to school improvement.⁵⁸ The result of poorly designed and implemented “accountability-focused” evaluation systems may result in self-reflective and altruistically motivated teachers feeling even worse about themselves; with the possible outcome being that the very people we need to stay in the profession are feeling pushed out, because they have “branded” themselves as a “poor teacher,” based on inauthentic data.

C. The School Environment and the Complexity of Teacher Attrition

It is unlikely that the teacher attrition problem can be completely eliminated; in fact, a moderate amount of attrition is not only inevitable, but can actually be beneficial.⁵⁹ Not all individuals who begin a teaching career find they enjoy teaching, while others find they are just not very good teachers. However, the results of this study suggest that there are steps that can be taken to reduce the rate of teacher attrition. However, legislators and policymakers need to consider the *most likely* factors that influence teachers’ thoughts of leaving (e.g. this research has shown that while compensation is an important factor, it is not the most important factor, at least for the teachers who participated in this study), including how those factors interact with each other in complex and dynamic ways, as well as how those factors may change over time. In other words, in order for solutions to be effective, they will need to be as dynamic and multifaceted as the problem they are intended to remedy. As indicated above, this will require that policymakers and legislators become better at being familiar with current, original research on the issue before crafting legislation and policy. They should also demand high quality research – research that will give a more authentic voice to the teaching professionals in their own states, as they describe the factors that affect their recruitment and retention.

As already stressed, Ingersoll identified, almost twenty years ago, the fact that one of the most significant factors influencing

⁵⁸ Philip Hallinger, Ronald H. Heck & Joseph Murphy, *Teacher evaluation and school improvement: An analysis of the evidence*, 26 *Educ. Assessment, Evaluation, & Accountability* 5, 5-28 (2014).

⁵⁹ Gary Barnes, Edward Crowe & Benjamin Schaefer, *The Cost of Teacher Turnover in Five School Districts: A Pilot Study* (2007), <https://eric.ed.gov/?id=ED497176>.

teacher attrition was teachers' dissatisfaction with their teaching position and work conditions.⁶⁰ This study found the same power in that factor, as a predictor of leaving the teaching profession, nearly 20 years later. Job satisfaction was the second most predictive factor in determining teachers' thoughts of leaving, and can be highly predicted by teachers' beliefs regarding whether (a) expectations of teachers are reasonable, and (b) students are well behaved and care about learning. Unfortunately, only 29% of teachers in this study believed that expectations of teachers are reasonable, and only 19% of teachers felt that students are well behaved at school. Other workplace factors that likely impact a teacher's decision to leave include those factors that combine to create school environment. The results of the present study found that only 53% of surveyed teachers indicated that a trusting and supportive environment existed at their school. Additionally, only about half of those surveyed felt their administration had a good vision for improving students' learning, and few teachers felt they get the support they need when dealing with disruptive students. Thus, it appears that little has changed in 20 years – policymakers and legislators are still not focusing their efforts on the actual factors related to the problem of teacher attrition.

These results substantiate Diane Ravitch's finding that there is a growing toxicity in the public school environment, which likely contributes to the teacher attrition problem.⁶¹ As Berliner reminds us, there are many issues that lie outside of educators' control (e.g. income inequality) that likely have an even greater impact on outcomes for many students than do school-related issues; yet teachers are routinely blamed for the impact these issues have on student performance, thus likely exacerbating teacher retention problems.⁶² Thus, while improving salaries for teachers is often proposed as a solution to the problem of teacher attrition, and is probably helpful to some degree, as long as these larger issues of environmental toxicity persist it will likely always constitute only a partial solution to the problem. At the same time that we are improving teacher salaries, more can be done to improve workplace conditions for teachers, which would

⁶⁰ Richard Ingersoll, *Teacher turnover, teacher shortages, and the organization of schools*, 38 Am. Educ. Res. J. 499, 499-534 (2001).

⁶¹ Diane Ravitch, *The death and life of the great American school system: How testing and choice are undermining education* (2016).

⁶² D. Berliner, *Effects of inequality and poverty vs. teachers and schooling on America's Youth*, Teachers College Record, 115, 12, 1-26(2013); see also Richard Rothstein, *Class and Schools* (2004).

likely lead to higher levels of perceived self-efficacy and altruism in teachers, and, therefore, persuade some of the teachers who are currently leaving to remain in the profession. If we are to keep teachers teaching, we must do the difficult, complex, and more sophisticated work that will be required to fix the systemic problems that currently exist in schools, rather than simply lobbying for higher teacher salaries as the sole solution to the problem.

The conclusion of this study is not that money is not important to education. On the contrary, the results of this study make it clear that money is very important. What can be reasonably concluded from this study is that, since policymakers and legislators have, to date, not summoned the political will to pay teachers a salary that would make teaching (with all of the personal, psychological, and organizational headaches that come with it) competitive with other professions such as medicine, law, and business (and they appear unlikely to do so anytime soon), tossing teachers the occasional metaphorical “peanuts” in the form of a few hundred or thousand dollars every few years will not be sufficient to solve the teacher shortage. In the absence of a fair, competitive salary, there are, fortunately, *other* things that policymakers and legislators can do that will reduce teacher attrition and, therefore, the teacher shortage. Further, such factors interact with salary considerations in the minds of teachers in complex, and often “invisible,” ways that must be considered when undertaking any such policymaking attempts, if policymakers and legislators are to actually improve the teacher shortage and not make it worse. At the very least, policymakers and legislators who are serious about reducing teacher attrition (and, therefore, the teacher shortage) can start by equalizing funding (and, therefore, teacher salaries) across school districts within the same state, while simultaneously improving teacher work conditions.

The scope of this study is, admittedly, ambitious. It is an attempt to help policymakers and those who impact legislative issues become aware of the interconnectedness of the various factors that affect teacher attrition. In a sense, it is a policy and law analysis that is illuminated by data – by original research. One of the limitations of legal research is that it often consists of analyses of the ways in which the law acts and reacts under various circumstances – but often without

the benefit of original research/data to contextualize those analyses.⁶³ Additionally, Jacob and McGovern concluded that educational law and policy are, more often than not, crafted on the basis of pre-existing beliefs (which are often erroneous) rather than on data.⁶⁴ The hope of the authors is that this study will provide data that will help legislators and policymakers improve their development of educational policy.

⁶³ Suzanne E. Rowe, *Legal research, legal writing, and legal analysis: Putting law school into practice*, 29 Stetson L. Rev. 1193 (1999).

⁶⁴ Andy Jacob & Kate McGovern, *The Mirage: Confronting the Hard Truth and Our Quest for Teacher Development* (2015).