Leadership and Student Learning:

Examining the Effect of Privilege- and Learning-centric Assignment Practices

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Leadership and Student Learning:

Examining the Cause and Effect of Privilege- and Learning-centric Assignment Practices within Florida Schools

Peter T. Goff and Gwendolyn S. Baxley

Teacher and student sorting within and between schools has historically garnered national attention and controversy. Seminal court cases, such as Brown v. Board of Education (1954), Zelman v. Simmons-Harris (2002) and NAACP v. Georgia (1985), shed light on student sorting among and within schools based on race, geography, and achievement. The recent landmark Vergara v. California (2014) case, which eliminates teacher tenure practices in California, also has notable implications for the distribution of teacher quality across schools. These cases reflect an ongoing national narrative regarding the equity of schools as teacher and student sorting has been linked to teacher retention (Donaldson, 2011), teacher effectiveness (Donaldson, 2011), and, most importantly, student learning (Jacob & Lefgren, 2005; Osborne-Lampkina & Cohen-Vogel, 2014). The preferences of educators, which underlie much of the sorting phenomena, and the needs of students are not always well aligned. As a result, school leaders need to strike a balance between policies focused on student development and those that reflect teacher preferences.

Scholars have recently examined how school leaders make data-driven decisions to create more equitable schools (Coldren & Spillane, 2007; Kaufman, Graham, Piccianno, Popham, & Wiley, 2014; Love, Stiles, Mundry, & DiRanna, 2008; Marsh, Pane, & Hamilton, 2006), particularly through teacher and student assignment practices. School leaders use student test scores to strategically sort students into classes to create "balance" (Monk, 1987; Osborne-Lampkina & Cohen-Vogel, 2014). Student achievement data is also linked to teacher reassignment, in which ineffective teachers are strategically reassigned to non-tested grades or subjects, while effective teachers may be promoted to leadership positions (Chingos & West, 2011; Cohen-Vogel, 2011; Cohen-Vogel & Harrison, 2013; Grissom, Kalogrides, & Loeb, 2013; Master, 2014).

Scholars have found that a combination of data-driven strategic staffing, accountability pressures, and micro-politics are prime drivers of assignment strategies within schools (Clotfelter, Ladd, & Vigdor, 2006; Grissom, Kalogrides, & Loeb, 2013; Master, 2014; Monk, 1987). Within the literature on assignment practices, one strand examines the impact of assignment practices on students but does not engage with principals' decision-making strategies (Clotfelter, Ladd, & Vigdor, 2006; Grissom, Kalogrides, & Loeb, 2013; Master, 2014) despite the central role principals play in school decisions. The second strand of research delves deeply into leadership decision making but seldom provides data on the actual assignment practices (Jacob & Lefgren, 2005; Osborne-Lampkin & Cohen-Vogel, 2014). This includes observed data regarding the two types of assignment strategies dominant within the literature: privilege- and learning-centric. A learning-centric assignment is the placement of highly knowledgeable teachers with students who need effective teachers more than do other peers (Donaldson, 2011,

p. 15). In contrast, privilege-centric assignments place experienced teachers in classrooms with higher achieving students (Clotfelter, Ladd, & Vigdor, 2006). School leaders may also use privilege-centric staffing to appease affluent parents and increase retention of their more experienced teachers. Although privilege-centric assignments may be counterproductive to the student experience, many schools employ this strategy (Anzia & Moe, 2014; Kelly, 2004; Lankford, Loeb, & Wyckoff, 2002; Levin & Quinn, 2003) despite principals' reports of using data to increase school equitability.

The assignment of teachers to students and classes is presumed to be an entirely local (school-level) decision, with school leaders having substantial authority over this process. The findings of the preceding research underscore the importance of principals in this process, and yet we know little about the ability of leadership to interrupt systems of privilege and institute more equitable staffing arrangements. Because of this potential inconsistency between principals reporting that they make data-driven decisions and their actual assignment practices, we see the need for continued research in this area.

The purpose of this study is to fill this gap within the literature by first examining the relationship between principals' reported data-driven decisions and teacher and student assignment strategies within schools, and then looking at the relationship between assignment practices and student learning. This study couples survey data from 213 Florida elementary and middle schools with 8 years of longitudinal, statewide data to address the following questions:

RQ1. To what extent are privilege- and learning-centric assignment practices used within schools? Are these practices changing over time?

RQ2. How do privilege- and learning-centric assignments impact student-learning gains?

RQ3. What drives student-assignment practices—is this phenomenon embedded in the culture of a school or do principals dictate assignment practices?

RQ4. How are principals' reported uses of data related to observed privilege- and learning-centric sorting?

I. Background

A growing body of literature examines the assignment of teachers to schools, students, and classrooms, much of which explores the characteristics of teachers and the students they serve. Assignment practices within this literature can be conceptualized into two overarching categories at opposite ends of a continuum: privilege-centric and learning-centric. Privilege-centric assignments involve the placement of teachers with superior instructional skills into classes with traditionally advantaged students (i.e. higher achieving, higher income, native English speaking, White students, and/or those without special needs). In contrast, learning-centric practices assign teachers with strong instructional capacity to classes with minority students or others who face higher levels of economic or social adversity (Donaldson, 2011). In the section below we present

the literature on these assignment practices, the factors associated with them, and the impact they may have on student achievement.

Privilege-centric and Learning-centric Assignment Practices

Recent research has consistently documented that schools across the nation use privilege-centric assignment practices in various ways. In New York, more experienced teachers are assigned to higher income and White students (Lankford, Loeb, & Wyckoff, 2002); in North Carolina, these teachers are likely to serve more students with college-educated parents yet fewer Black students (Clotfelter, Ladd, & Vigdor, 2006). In three large urban districts in Florida, the site of our study, low-achieving, Black, and Hispanic students are more likely than White students to have novice teachers (Kalogrides & Loeb, 2013). These differences of teacher sorting based on experience are larger in middle school and high school than they are in elementary school, but significant differences are evident across grade levels (Kalogrides & Loeb, 2013). In Miami-Dade County, in particular, privilege-centric practices are conditional on experience as well as accountability pressures**.** Using statewide administrative data and data from the Schools and Staffing Survey, Feng (2010) found that novice teachers in Florida are assigned to more students of color, from low-income homes and with behavioral problems than their more experienced peers. Using administrative and survey data, Kalogrides and colleagues (2013) also found that inexperienced, White, male teachers had higher-achieving students than their inexperienced, minority, female colleagues from the 2003–2004 school year through the 2010–2011 school year in Miami-Dade County (Kalogrides, Loeb, & Beteille, 2013). Grissom and colleagues (2013) also found that more experienced teachers in non-tested grades are assigned to higher-achieving and fewer poor and minority students, but assignment practices are more balanced in tested grades. The most comprehensive study on teacher assignment, using a nationally representative sample of middle and high school teachers from 1990–1991, found that experienced teachers are assigned to more rigorous courses, such as advanced placement, honors and college-prep classes (Kelly, 2004), classes that often contain few or no English language learners, students of color, from lower-socioeconomic background, lower achieving, or with special needs and disabilities (Lewis & Diamond, 2015; Capper & Frattura, 2008). Although these practices are often studied in urban schools (Kalogrides, Loeb, & Beteille, 2013; Neild & Farley-Ripple, 2008) and can be arguably attributable to the ability grouping and tracking of high schools, this literature underscores that privilege-centric practices are pervasive and may transcend geographic region and grade level.

Given that learning-centric assignment practices are inherently contrary to privilege-centric practices, this body of literature also implies that learning-centric practices are not as common in schools. Few studies, though, have explicitly explored the extent to which schools use learning-centric assignment practices and how these practices vary within schools over time.

Factors Contributing to Assignment Practices

Teachers, parents, and principals contribute to assignment decisions and practices. They are part of a complex structure of formal and informal procedures and actions whereby “principals

and other school leaders attempt to balance short- and long-term goals while responding to pressures to meet the preferences of teachers, students, and parents" (Kalogrides, Loeb, & Béteille, 2013, p. 105).

Teachers. Teachers, particularly experienced teachers, exert substantial influence over assignment decisions and practices. Experienced teachers are often given first priority in classes and courses, as a result of seniority provisions implicitly embedded in school or district assignment practice norms (Burns & Masons, 1998; Donaldson, 2011) or explicitly outlined in collective bargaining agreements (Cohen-Vogel, 2007; Donaldson, 2011). Depending on the state context, these provisions may allow senior teachers to self-select into courses (Cohen-Vogel & Feng, 2013; Johnson & Donaldson, 2006). Such preferential sorting may occur regardless of the fit between teacher and student or "whether or not they had [the] training, or if they were a good educator" (Donaldson, 2011, p. 13). Experienced teachers also are involved directly in choosing assignments for themselves and their peers (Grissom, Kalogrides, & Loeb, 2013; Monk, 1987; Paufler & Amerin-Beardsley, 2014); Some principals even partially or completely defer assignment practices to teachers (Monk, 1987), causing veteran teachers to closely guard more desirable courses and load up "first-year teachers with a disproportionate number of difficult students" (Monk, 1987, p. 173). Given that teachers, generally, prefer learning environments that often have higher achieving and White students (Finley, 1994), experienced teachers may facilitate privilege-centric practices by using their influence over assignments to move to classes with more advantage students.

Parents. Parental preferences and intervention also drive assignment practices within schools and are considered part of the class-assignment process (Paufler & Amerin-Beardsley, 2014). With concerted efforts, parental preferences and intervention may override teacher recommendations, test scores, and grades regarding the courses and teachers deemed the best fit for students (Lewis & Diamond, 2015). In particular, highly educated and/or upper class parents are often more likely to submit requests for their children to have specific teachers (Jacob & Lefgren, 2005; Kalogrides, Loeb, & Beteille, 2013) and intervene in the class assignment process to ensure that their child obtains the most desirable teachers and courses (Lewis & Diamond, 2015; Lareau, 1987). For example, in a qualitative study of the opportunity gap between Black students and their peers in a Midwestern high school, scholars found that middle-class, White parents hoarded educational opportunities, effectively preventing Black students from full access to certain teachers, upper-level classes, and higher quality instruction. Although parents tend to have less influence than teachers over assignment practices and principals report mitigating or resisting their efforts, there is evidence that parents are often successful in influencing which teachers their students are assigned (Lewis & Diamond, 2015; Jacob & Lefgren, 2005; Monk, 1987). These affluent parents, leveraging their social capital, often act as an external force to complement privilege-centric assignment practices.

Principal Decision Making. Although teachers and parents contribute, principals, for the most part, have the most authority over assignment procedures and final assignment decisions. Few studies have empirically examined how principals decide to assign teachers to students and

classes, and even fewer studies have examined how new principals may differ in their assignment strategies from more experienced peers. In a study of student scheduling, for example, DeLany (1991) found that high school teachers are reassigned to math and science courses that they are ill-equipped to teach as a result of frequent changes in student enrollment, teacher turnover, and revised graduation requirements. A qualitative study in 10 Florida elementary schools found that principals and teachers report that principals are unconstrained in their authority over assignment and freely make assignment decisions, using teacher preferences and student test score data to assign teachers to classes in which they will be effective (Cohen-Vogel, 2011).

Given that student and teacher assignments are inextricably linked, principals' decisions regarding students and where they are placed also provide potential insight into their decisions regarding teacher assignments. Studies of principals' student assignment guidelines largely find that principals often strive to create heterogeneous or homogenous classes based on student demographics and need. Monk (1987) interviewed 17 elementary school principals in five Midwestern, eastern, and southern states and found that the principals used five student assignment strategies: (a) assigning students at random, (b) forming homogeneous classes based on students' reading levels, (c) creating "balanced" classrooms using teachers' ratings of students' time demands, (d) assigning students to teachers based on the "principal's impression of which child worked best with which teacher" (p. 171), and (e) allowing the previous year's teachers to make the assignments. Monk (1987) also found that principals with less experience, particularly only 1 year, were less involved in assignment practices and relied heavily on teacher input. Burns and Masons (1998) tracked the process used by principals of 22 elementary schools to assign students to 200 classes and found that principals strived to create either heterogeneous or homogeneous classrooms using student characteristics such as reading ability, language ability, gender, and ethnicity. Using semi-structured interviews with principals and other school actors in 10 Florida elementary schools, Osborne-Lampkina & Cohen-Vogel (2014) found that, while principals report using test score data as they assign students to classes, they are not using the assignment process as a strategy for overall school improvement. Rather, these principals used assignment practices to ensure within-class heterogeneity and a sense of "fairness" among teachers. Paufler and Amrein-Beardsley (2014) surveyed 378 principals in Arizona elementary schools and found that principals rarely assigned students randomly but, instead, strived to create more heterogeneous classes or homogeneity based on students' academic achievement or ability, behavior, special education needs, gender, and giftedness. Very few principals in these studies identified students' racial or ethnic backgrounds or socioeconomic status when making placement decisions.

These student assignment decisions from principals could mean the difference between whether privilege and learning-centric practices are even possibilities within schools. Teacher and student centric assignments are partly driven by the systematic and inequitable distribution of students across classes within schools. Thus, privilege and learning-centric assignments are not possible in schools in which principals report creating heterogeneous classes because all teachers—regardless of experience level—have similar demographics of students within their

classes. Whether principals' reported assignment practices actually coincide with actual student sorting taking place within schools is left to be determined, especially in cases where principals report that they strive for heterogeneous classrooms within their schools, such as the cases within Florida (Osborne-Lampkina & Cohen-Vogel, 2014), yet research on the prevalence of student tracking, clustering and ability grouping within schools says otherwise (Dieterle et al., 2015; Gamoran, 1987, 1992; Kalogrides & Loeb, 2013; Kalogrides, Loeb, & Beteille, 2013; Lucas & Berends 2002; Oakes & Guiton 1995). Nevertheless, the principal has ultimate influence over assignment practices, yet it remains unclear how often principals use their influence to shape assignment policies or whether they acquiesce to their schools' historical assignment practices.

Organizational Culture. In addition to the singular actions that teachers, parents, and principals take in assignment practices, collective school norms, beliefs, values, and behaviors (Stolp & Smith, 1995) may also shape assignment practice decisions. School culture consists of the "subtle, habitual regularities of behavior" within schools (Stolp & Smith, 1995, p. 24), which is shaped by both internal school members as well as district and federal policies (Caruso, 2013), and is paramount to both current school structures and the restructuring of school practices (Cunningham & Gresso, 1993; Leithwood, Lantzi, & Fernandez, 1994; Stolp & Smith, 1995).

Two qualitative studies document the relationship between organizational culture and assignment practices, both suggesting that culture indirectly influences assignment practices. In an ethnographic study of tracking in a high school, Finley (1984) found that school norms ensured that more senior teachers automatically inherited or maintained the most desirable courses, such as advanced placement or electives, which enroll higher achieving and middle class students (Finley, 1984). New teachers frequently received challenging class—until they were proactive and asserted themselves against this practice. Similarly, in her interviews with 30 principals in two northeastern states, Donaldson (2011) found that seniority played the decisive role in school practices, although it was not contractually required. As a result of district norms, "seniority's influence had exceeded its contractual basis" (Donaldson, 2011, p. 16).

This stable culture may serve as barrier when attempting to alter assignment practices within schools. Organizational culture is the "most difficult" to transform in schools and often acts as a barrier to educational change and restructuring schools (Barth, 2002, p. 6). Schools with deeply rooted organizational cultures and histories, in particular, may resist change. In their retrospective study of eight secondary schools in the United States and Canada over a 30-year period, Hargreaves and Goodson's (2006) found that schools with strong, traditional school norms and standards may temporarily adapt educational reform but ultimately regress back to their traditional norms—only maintaining educational reform initiatives that reaffirm their historical organizational norms.

This culture may pose a challenge for incoming principals seeking to change assignment practices, because the majority of school stakeholders that comprise a current school's culture are not typically those that want to change it (Sarason, 1996), and new school leaders often have to work diligently to navigate the internal and external politics of the organizational culture

(Caruso, 2013). In "Cage Busting Leadership," for example, Rick Hess documents instances of principals having the authority to make changes but abdicating that authority because they are reluctant to act against the inertia of established institutional practices (Hess, 2013). While school leaders may play a role in creating a positive or negative school culture (Deal & Peterson, 2009; Hinde, 2003), school leadership alone may have only a minor effect on school cultural norms and change within schools (Schwieker-Mara, 1995). Schwieker-Mara (1995) examined principal influence on the cultural change of two schools in a mid-Atlantic state and found that cultural change occurred irrespective of the principals and their leadership styles.

Assignment practice decisions, much like many school practices, tasks, and decisions, are distributed in nature (Spillane, Halverson, & Diamond, 2001) and may be the result of interactions between schools members rather than one lone leader or person. The literature underscores that one must not only consider principals' impact on assignment practices; organizational culture and other school factors play a pivotal role as well.

Impact of Assignment Practices on Student Learning

Although it is evident in the literature that teachers influence student learning and that teachers are often strategically assigned to students, it is less clear how assignment practices, including privilege- and learning-centric assignments, impact student learning. More experienced teachers are frequently more reflective about their practice, have strong classroom management skills and greater student-centered pedagogy, and may be the best equipped to meet student needs (Fuller 1969; Fuller & Brown 1975; Katz, 1972). Given the positive relationship between teacher experience and student test scores, experienced teachers—particularly those with more than 3–5 years of experience—are vital to providing adequate education because they can deliver high-quality instruction and help expand educational opportunity to traditionally disadvantaged students (Clotfelter, Ladd, & Vidgor, 2006; Rivkin, Hanushek, & Kain 2005; Rockoff, 2004). For example, using data from Florida to identify within-teacher development, Harris and Sass (2011) found that the largest student gains accrue in the first few years, but also found "continuing gains" beyond the first 5 years of a teacher's career (p. 1). Similarly, in his examination of data on 5th grade teachers in North Carolina, Wiswall (2013) found that teaching experience has a substantial impact on mathematics achievement, even beyond the first few years of teaching (although not in reading; 2013, p. 62). Building upon the work of these scholars, Papay and Kraft (2015) constructed to test assumptions about teaching experience. These scholars found evidence that teachers continue to improve their ability to raise student test scores in reading and mathematics as far as the 8– 25 year mark. Given that teacher practice impacts student learning, which, in turn, influences student achievement, teachers' instructional quality may improve rapidly within their initial years (Rockoff, 2004; Clotfelter, Ladd, and Vigdor, 2006) and modestly thereafter (Harris & Sass, 2011; Papay & Kraft, 2015; Wiswall, 2013). Although student learning gains do not necessarily increase linearly with teacher experience, there is evidence that novice teachers are, on average, less effective at raising student achievement compared with their more experienced peers (Rockoff, 2004). The prevailing research suggests privilege- and learning-centric practices may have a major impact on student

learning; it is conceivable that learning-centric assignments may be more conducive to improving student learning than privilege-centric assignments because the former emphasizes assigning experienced teachers to students who traditionally struggle, while the later assigns these teachers to already or traditionally higher-achieving students. To our knowledge, this study is the first to formally link school-level assignment practices to student outcomes.

II. Data

To obtain information regarding student, teacher, and principal characteristics, we utilized longitudinal student and administrative data from the Florida state department of instruction. The database includes demographic information, achievement scores, teaching and leadership experience, teaching assignments, student assignments, and teacher and principal credentials for the 2003–2004 to 2010–2011 school years. Conducting a statewide analysis diminishes the geographic limitations (e.g., urban, rural, etc.) of prior research, providing insights that are generalizable across contexts.

There are unique observations for 4,022 schools, 141,054 teachers, and 3,394,407 students within Florida in the full sample. Table 1 shows the characteristics of the students and schools for 2010–2011, the most recent data available. A little less than half of students are White (41%), approximately a quarter are Black (24%) or Hispanic (22%). Most students within schools are eligible for free or reduced-price lunch (FRL) (65%); a smaller proportion are gifted (7%), linguistically diverse (14%), and require special needs (17%), on average.

To address our first two research questions—to what extent privilege- and learning-centric assignment practices are used within schools and how these impact student-learning gains—we identified teachers within general education classes and the corresponding years of experience of those teachers. Some schools have multiple teachers assigned to courses, often an aid alongside the primary teacher. These represented 3.4% of classes. Educators with aids in their classrooms had similar median experience level (M = 10.42) as those without aids in their classrooms (M= 10.85). In these cases, we excluded the aid and only used the experience level of the primary teacher for analysis. In the rare case in which multiple regular teachers taught a course, we used their combined average experience as their experience level for that school year in that class.

To address the research question pertaining to principal leadership, the sample was restricted to schools in which it is possible to reliably identify the primary principal and the timing of principal transitions for each school year. Some schools have missing principal information or multiple principals identified for a single school year in the dataset. These schools are excluded, with only one exception: if only principal A was listed in year t-1 and only principal B was in year t+1. In this case, the school is listed as having a new principal in year t. Of the total number of schools in the full sample, 65% of schools (n = 2,622) had complete principal information and were included for this analysis. Demographics of schools with complete and incomplete principal information can be found in Appendix A. Schools with complete and incomplete principal information have similar demographics.

***Table 1*: Descriptive Statistics of Full and Survey Sample**

	M	*SD*	*Min*	*Max*	*n*
Full Sample					
Proportion Low-Income	0.65	0.270	0	1	3363
Proportion Linguistically Diverse	0.14	0.171	0	1	3363
Proportion Special Needs	0.17	0.177	0	1	3363
Proportion Gifted	0.07	0.105	0	1	3363
Proportion Black	0.23	0.243	0	1	3363
Proportion Hispanic	0.22	0.223	0	1	3363
Proportion White	0.41	0.292	0	1	3361
Proportion Female	0.46	0.163	0	1	3361
Proportion Male	0.54	0.163	0	1	3361
Achievement: Grade 3	199.6	10.9	140	238	2176
Achievement: Grade 4	213.1	11.3	155	271	2191
Achievement: Grade 5	219.8	11.8	163	279	2226
Achievement: Grade 6	222.0	14.6	170	284	1273
Achievement: Grade 7	229.4	14.3	179	292	1217
Achievement: Grade 8	237.2	16.1	187	298	1294
Survey Sample					
Proportion Low-Income	0.67	0.24	0	1	234.00
Proportion Linguistically Diverse	0.16	0.14	0	1	234.00
Proportion Special Needs	0.13	0.05	0	0	234.00
Proportion Gifted	0.07	0.06	0	0	234.00
Proportion Black	0.22	0.22	0	1	234.00
Proportion Hispanic	0.25	0.21	0	1	234.00
Proportion White	0.38	0.27	0	1	234.00
Proportion Female	0.49	0.05	0	1	234.00
Proportion Male	0.51	0.05	0	1	234.00
Achievement: Grade 3 in 2011	201.71	8.57	175	222	174.00
Achievement: Grade 4 in 2011	214.80	7.78	196	240	174.00
Achievement: Grade 5 in 2011	221.31	9.59	170	266	175.00
Achievement: Grade 6 in 2011	226.08	10.99	182	251	84.00
Achievement: Grade 7 in 2011	235.84	8.65	217	259	74.00
Achievement: Grade 8 in 2011	243.40	7.70	228	262	73.00

To address the final question—how principals' reported uses of data are related to observed privilege- and learning-centric sorting—we linked relevant information from these data to a state-representative subsample of 234 schools with measures of principal data-driven decision making. The schools, as shown by their demographics in Table 1, are representative of schools across the state.

III. Empirical Strategy

Privilege- and Learning-centric Assignments

To obtain a measure of privilege- and learning-centric staffing, we examine the relationship between teachers' experience level and the class composition of the courses that they teach within each school. Multilevel modeling allows us to quantify this variability in teacher-class assignments. The basic multilevel, random effects linear model we estimate is:

$$(1)\ Y_{cs} = \beta_{0s} + \beta_{1s}(Exp)_{cs} + e_{cs}$$
$$\beta_{0s} = \gamma_{00} + u_{00s}$$
$$\beta_{1s} = \gamma_{01} + u_{01s}$$

where Y represents the class composition (percent FRL) in class c and in school s. In the fixed effects component of the model, or level 1, β_0 represents the average class composition across all schools. β_1 represents average relationship between teacher experience and class composition across the sample. In the random component of the model, or level 2, u_{00s} represents each schools' deviation from the sample mean. Our measure of assignment practice within a school, u_{01s}, represents each school's average relationship between its teachers' experience and class composition. This point estimate measures the extent to which each school implements privilege- or learning-centric practices. Negative point estimates suggest that schools employ privilege-centric practices: teachers' experience is negatively correlated with the percentage of disadvantaged students assigned to their classes. Positive estimates suggest that schools employ learning-centric practices: higher levels of teacher experience correspond to higher percentages of disadvantaged students that the teacher has within that school.

We estimate one model per year, which allows the random slope component (u_{01s}) to vary within schools over time. We use this measure of privilege- and learning-centric practices, u_{01s}, referred to as ($Prac$) in the following equations, to provide descriptive detail regarding the temporal trends of assignment practices within and between schools, to examine the impact of such assignment practices on student development, and to examine the role of leadership change as a process to disrupt privilege-based assignment practices.

Student Learning Gains

We then examine the relationship between these school assignment practices and student achievement growth. We estimate the following model:

$$(2)\ Y_{ist} = \beta_0 + \beta_1(Prior\ Ach)_{its} + \beta_2(Prac)_{ts} + \beta_k(School\ Controls)_{ts} + e_{ist}$$

where the achievement, Y, of student i in school s and in year t is a function of the students' prior achievement ($Prior\ Ach$) and the school assignment practices ($Prac$) within the school and year. We also controlled for school and class characteristics, including total enrollment, accountability grade, and class size. This model attributes the additional test performance that a student has to assignment practices, relative to what we would predict given the prior year test score. A negative relationship between student achievement and assignment practice suggests that as schools implement a more learning-centric assignment approach student learning decreases. A positive relationship suggests that learning-centric practices benefit student learning.

Principal Impact

We then examine the role of leadership on teacher-student assignment practices. Our strategy is to determine if changes in leadership are associated with subsequent changes in assignment. If changes in leadership are not systematically related to variation in staffing, this suggests that factors unrelated to leadership, such as school norms, are driving the staffing decisions. To explore this issue, we estimate two models. In the first, we examine the overall change in assignment practices under new leadership, and we estimate the following effect model:

$$(3)\ Prac_{st} = \beta_0 + \beta_1(NP2)_{ts} + \beta_1(NP3)_{ts} + \beta_1(NP4)_{its} + e$$

where the assignment practice ($Prac$) of school s in year t is a function of the new leadership within the school. NP1 (the omitted reference category) is a dummy variable that indicates if a school is being led by the school's first principal since the school's first observation in our data. NP1 is equal to one for all years the first principal is leading the school. Likewise, NP2 takes a value of one for all years that a school is being led by the second principal since the school's first observation in our data. β_1 represents the average assignment practice under new school leadership, across all years of the new principals' tenure. We provide additional dummy variables for each new principal that a school experiences, with an additional upper limit dummy variable for schools that experience four or more new principals. All principal estimates are reported relative to the omitted category of the first principal observed within the school. Results are presented with and without school fixed effects.

In addition to examining average changes in assignment practices between successive principals, it is important to capture how assignment practices change from one year to the next under new leadership. Restructuring schools takes time, and assignment practices may vary during each year of a principal's tenure. In their first year in particular, principals may be more likely to defer to the status quo rather than expend political capital to change assignment practices. We explore this change over time in the second model. Using Miller's strategy (2013), we estimate the following model:

$$(4)\ Prac_{st} = \beta_0 + \sum_{m \geq k \geq -m} D_{itk}\,\delta_k + e_{itk}$$

where assignment practices ($Prac$) of school s in year t is a function of the new leadership tenure within the school. $\{D_{itk} | \, m \geq k \geq -m \}$ are indicator variables for principal tenure. For positive k, D_{itk} is an indicator that principal tenure is k years; D_{itk} is one if school i hired a new principal k years before year t. For negative k, $D_{itk}$is one in year t if school i will change principals' k years later.

The values of the δ_k summarize the extent to which assignment practices differ before and during new leadership. For negative k, δ_k measures the assignment practices in the years leading up to a new leadership. For positive k, δ_k captures both the same underlying trends in assignment practices as well as the effects of new leadership or principal turnover.

The choice of m is based on the average number of years a principal typically spends within the school both in the sample and documented in prior literature. It is also large enough to capture changes in assignment practices around a principal transition (Miller, 2013). In the main specification, $\delta_k$are estimated for $3 \geq k \geq -3$, with an additional dummy for 4 or more years since the new principal assumed leadership. All principal tenure estimates are reported relative to the omitted category of 4 or more years before the principal transition.

Our line of inquiry is not without notable limitations. First, we oversimplified the nature of the assignment process to facilitate analysis. In practice, principals see students as more than their economic status, and teachers' capabilities are far more nuanced than can be captured by their experience alone. Nonetheless, economic disadvantage and experience serve as useful proxies; our robust findings support the utility of these measures. Second, our measure of staffing is similarly useful yet overly simplistic. We do not mean to imply that more positive staffing values are unilaterally desirable. An example can be seen in a school that assigns all its low-income students to the strongest teacher in each grade. Such a practice would foster segregation and undermine the social and civic nature of schooling. We see our measure as being most useful in a relative context, where more positive staffing values are more socially desirable than more negative staffing values—all else being equal.

IV. Results

Question 1: Describing Teacher and Student Centric Schools

When we examine teacher assignment practices, we see notable variation among schools as well as variation within schools over time. As outlined above, negative values (privilege-centered assignment) indicate that experienced teachers tend to be assigned to classes with fewer students receiving FRL. We first provide evidence regarding the validity of our assignment measure and to give readers an intuitive sense of the extent of sorting behaviors represented by large or small values. Although the magnitude of the measure is small, ranging (by construction) from -1 to 1, with observed values largely between -0.10 and 0.10, we find notable differences in class structure from schools at opposing ends of the assignment spectrum. For example, in schools in the top 10% on the assignment measure—those with the strongest learning-centric assignment policies—we find that the most experienced teachers have 80% FRL students in their

classes, while the least experienced teachers typically have 60% FRL students. In contrast, in schools at the other end of the spectrum—those with privilege-centric assignment practices—the most experienced teachers have 40% FRL students, while the least experienced teach in classes with 66% FRL students.

This finding provides two important pieces of information. First, across all schools, the least experienced teachers tend to teach similar proportions of students in financial need. Second, our assignment measure does indeed capture differences in sorting behaviors among the most experienced teachers, where experienced teachers in learning-centric schools are reaching *twice* as many high-need students as compared to their colleagues in privilege-centric schools.

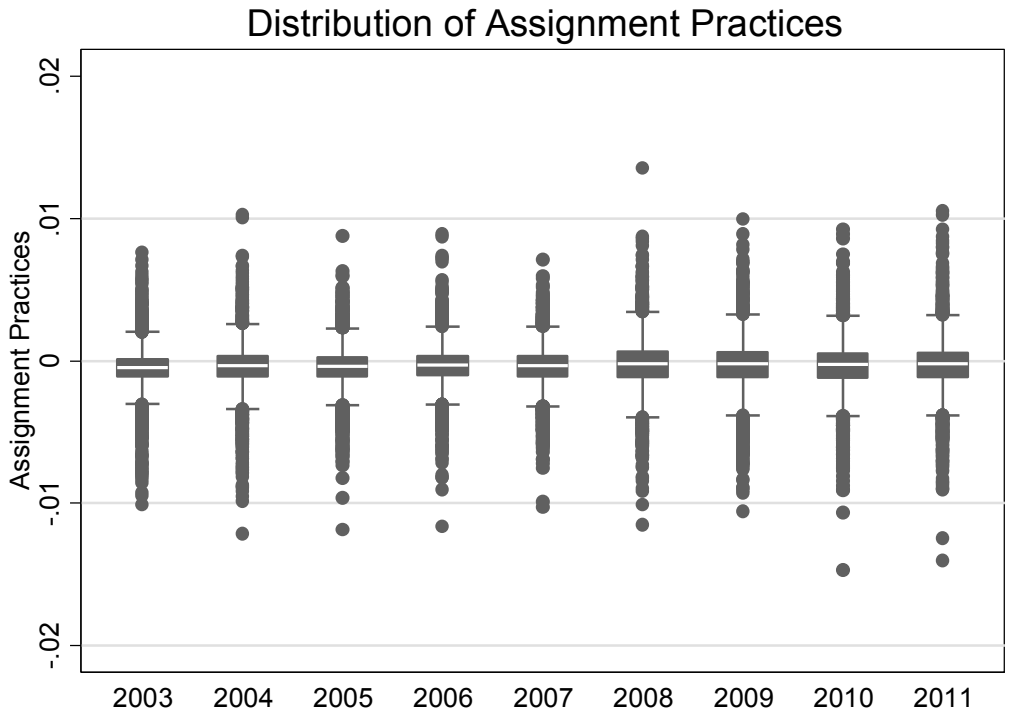

***Figure 1*. Measures of assignment practices over time. Positive values are more learning-centric, negative values are more privilege-centric.**

The next descriptive point we make pertains to distribution of assignment practices and how those practices have changed over time. From Figure 1 we see that the amount of sorting that takes place varies across schools in any given year and varies among schools over time. Three findings emerge from Figure 1.[1] First, the distribution of staffing practices appear to be fairly balanced between learning-centric (observations above zero) and privilege-centric (observations below zero) assignment. Second, since the arrival of the No Child Left Behind Act early in the

[1] The assignment practices measure shown in Figure 1 consists of $\beta_{1s} = \gamma_{01} + u_{01s}$ (from equation (1), above), and thus the apparent centering on zero is not an artifact of using only u_{01s} as might otherwise be the case.

last decade, the mean staffing patterns appear to be fairly stable across the 9 subsequent years. Third, the slight widening of the boxes and bars over time suggests that schools are increasing their use of strategic staffing and are doing so at both ends of the spectrum.

As we considered changes over time, we were curious about the extent to which assignment practices changed within schools relative to changes between schools. To pursue this line of inquiry, we used an empty random-effects model predicting our assignment measure. This model indicated that 12% of the total variance in assignment practices could be attributed to within-school differences. This suggests that schools are largely static in their assignment practices over time and the majority of variation in staffing practices occurs between schools. We revisit this point in greater depth when we examine the role of principal turnover on assignment practices.

The next set of findings emerges from the systematic relationship between these measures of assignment practices with other, structural measures of schools. Table 2 presents comparisons among schools across the distribution of assignment practices, segmenting the distribution into three groups of schools, those with privilege-centric assignment practices (the bottom third of the distribution), those with neutral assignment practices (the middle of the distribution), and those with learning-centric assignment practices (the top third of the distribution).

Table 2. **Average Characteristics of Middle 15%, Top 33% Learning-Centric, Top 33% of Privilege-Centric Schools**

	Privilege Centric	Middle	Learning Centric
School size	598.87	280.20	487.69***
Class size	15.91	14.87	14.97***
Corr aids & teacher experience	-0.003**	-0.01***	-0.00
Corr class size & teacher experience	0.000*	0.04***	0.00***
Corr class size & aids	-0.01***	-0.00***	-0.00***
Accountability grade (higher values equate to worse ratings)	1.36	1.90	1.59***

From Table 2 we see that privilege-centric schools tend to be larger institutions, 20% larger than learning-centric schools and more than twice as large as assignment-neutral schools. When thinking about how various assignment practices may manifest in practice, we might be inclined to hypothesize that principals tap other resources to offset privilege-based assignment practices. For example, principals may assign inexperienced teachers to classes with greater proportions of students receiving FRL; however, they may also reduce class size or provide these teachers with a classroom aid. From Table 2, however, we see that schools that are enacting privilege-centric staffing appear to exhibit a slight compensatory strategy by adding instructional aids to classrooms with less experienced teachers. These correlations are quite small, however, and we note no substantive relationship between experience, aids, and class size in schools that are primarily privilege-centric nor in those that are primarily learning-centric.

Question 2: The Impact of Staffing on Achievement Growth

The next set of findings examines the impact of assignment practices on students' achievement growth. Table 3 presents five regression models using a combination of school and student fixed effects. Across the five models the results show a consistent trend: low-income (FRL) students show higher growth in schools that adopt a learning-centered approach to teacher-student assignment. In Model 1, for example, we note a negative coefficient (-3.13***) on the learning-centric practices, indicating that increases in learning-centric practices result in lower growth for non-FRL students. The coefficient on the interaction term (5.105***) shows that the return to learning-centric practices for the academic growth of low-income students is substantially positive and can offset some disadvantages associated with economic adversity. These returns are somewhat smaller in Model 2, where we include school fixed effects. Model 3, which uses student fixed effects, is identified primarily through student-level changes in FRL status. Here too we see that students' achievement growth is greatest when they are in financial need and attend schools with learning-centric rather than privilege-centric assignment practices.

Table 3. **Relationship Between Assignment Practice and Current Student Achievement**

	Model 1	Model 2	Model 3
1 yr. prior math achievement	0.76***	0.76***	-0.18***
	(0.001)	(0.0002)	(0.0004)
Learning-centric practice	-3.130***	-3.374***	-1.173***
	(0.775)	(0.187)	(0.163)
Low-income student	-0.09***	-0.10***	-0.01***
	(0.001)	(0.0005)	(0.0008)
Learning-centric*low-income	5.105***	4.700***	2.106***
	(0.956)	(0.223)	(0.219)
Accountability grade	-0.03***	0.00***	-0.03***
	(0.002)	(0.0005)	(0.000352)
% FRL students in school	-0.00***	0.00***	0.00***
	(0.00009)	(0.00003)	(0.00001)
Aid in classroom	-0.01*	-0.01***	-0.01**
	(0.00640)	(0.00237)	(0.00189)
Class size	0.00	0.00	0.00***
	(0.000132)	(0.0000311)	(0.0000252)
Constant	0.78***	0.54***	-0.12***
	(0.00730)	(0.00327)	(0.00283)
Year FE	Yes	Yes	Yes
Grade FE	Yes	Yes	Yes
School FE	No	Yes	No
Student FE	No	No	Yes
Observations	6,372,795	6,372,795	6,372,795

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
"learning-centric" captures both privilege-centric and learning-centric assignment practices as negative values are privilege-centric and positive values are learning-centric.

Question 3: The Role of Leadership on Staffing

The next two research questions probe the impact of school leaders on assignment policies. The question addressed in this section investigates whether changes in school leadership result in changes in teacher-student assignment trends. In nearly all schools, principals have substantial influence over assignment policy, and, as the previous section indicates, strategic assignment may be a viable strategy to address achievement and opportunity gaps within their schools. However, changing an established policy, especially one that may be seen as advantaging experienced teachers, involves an outlay of political capital that principals may be wary to expend, particularly those principals who are early in their tenure.

We explore the role of leadership change through two models, which are displayed in Table 4. This model contrasts the assignment policies of schools under various principals over the course of the 9 years in our data. The null coefficient on "second principal" indicates that the teacher-student assignment practices under the second principal we observe in a school do not differ significantly from the staffing practices of the first principal. This finding holds for schools where we can observe three, four, or more principals in a given school and remains unchanged by the inclusion of school fixed effects.

***Table 4*. Change in Teacher Assignments Under New Leadership**

	Model 4	Model 5
Second principal	-0.0000202	-0.0000582
	(0.0000430)	(0.0000460)
Third principal	-0.00000676	-0.000139
	(0.0000659)	(0.0000717)
Fourth principal (or more)	0.0000588	-0.000152
	(0.000123)	(0.000110)
Constant	0.0000282	0.0000259
	(0.0000436)	(0.0000437)
Year FE	Yes	Yes
School FE	No	Yes
Observations	17,688	17,688

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In Table 5 we show results from a more explicit approach to modeling time before and after a principal transition. Principals may be more willing to make changes leading up to their departure if they do not have to work with teachers they may have disenfranchised. On the other hand, depending on the conditions of their departure, principals may have little incentive to be proactive in preparing another leader to take their place. During their first year leading a school, principals may be unlikely to change the status quo before taking stock of the culture and building the requisite political capital. As a result, we would expect changes in staffing trends to manifest more strongly in later years. With only one, likely spurious, significant coefficient across both models shown in Table 5, it appears as though changes in leadership are not driving changes in assignment practices.

***Table 5*. Change in Teacher Assignments Under New Leadership**

	Model 6	Model 7
Two years before new principal	0.0000152	-0.00000603
	(0.0000368)	(0.0000396)
The year before new principal	0.0000697*	0.0000547
	(0.0000354)	(0.0000382)
The first year of new principal	-0.0000344	-0.0000532
	(0.0000401)	(0.0000376)
The second year of principal	0.0000120	-0.00000649
	(0.0000469)	(0.0000443)
The third year of new principal	-0.00000630	0.000000811
	(0.0000560)	(0.0000518)
Four years or more of the new principal	0.0000132	0.0000746
	(0.0000655)	(0.0000535)
Constant	0.0000359	0.0000414
	(0.0000476)	(0.0000279)
Year FE	Yes	Yes
School FE	No	Yes
Observations	27,844	27,844

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Question 4: Reported Data Use and Assignment Practices

For our last question regarding leadership and assignment practices, we compare findings from our empirical measure of staffing to those reported by school leaders. As mentioned above, school leaders reported their staffing practices through a survey administered to a state representative sample of Florida schools serving students in grades k–8 in 2011. Figure 2 shows the distribution of staffing practices (learning-centric or privilege-centric) across the state to be quite similar to the distribution of staffing practices within our survey sample.

To more closely examine principals' reported staffing strategies juxtaposed against observed staffing trends, we divided our sample of survey schools into thirds, retaining those at the top third of the distribution on our assignment measure (learning-centric staffing) and those in the bottom third (privilege-centric). We then compare principals' responses to nine survey items related to assignment practices. These nine items fall into three groups: authority and influence; goals of class creation; and differentiated staffing. Using each item individually, we test for differences between schools that use privilege-centric assignment as compared to those that use a learning-centric approach to assignment.

The first block of items in Table 7—those pertaining to influence and authority—reinforce our initial presumption that school leaders have substantial authority to shape student-teacher pairings and tend to be actively involved in the assignment process. However, responses from principals in learning-centric and privilege-centric schools reported similar levels of both

authority and influence—hovering between "quite a lot" (4) and "a very great deal" (5). As compared to principals, teachers have substantially less influence over practices governing the construction of classes, with teachers who will be teaching them in the coming year having the least. As compared to learning-centric schools, teachers who worked with students in the prior year tend to have greater influence in the assignment process in privilege-centric schools.

The second block of items shows that schools report quite similar goals in their assignment practices, regardless of actual outcomes. All principals in our sample report that they strive to create classes that are diverse, enhance positive peer effects, maximize teacher and student strengths, and minimize discipline challenges. The fact that these perceptions are held by principals who staff their schools in ways that systematically disadvantage certain students is problematic. Last, we note that principals report using data to better align the strengths of the teachers with the needs of the students. Again, the reported prevalence of this practice is high across all schools.

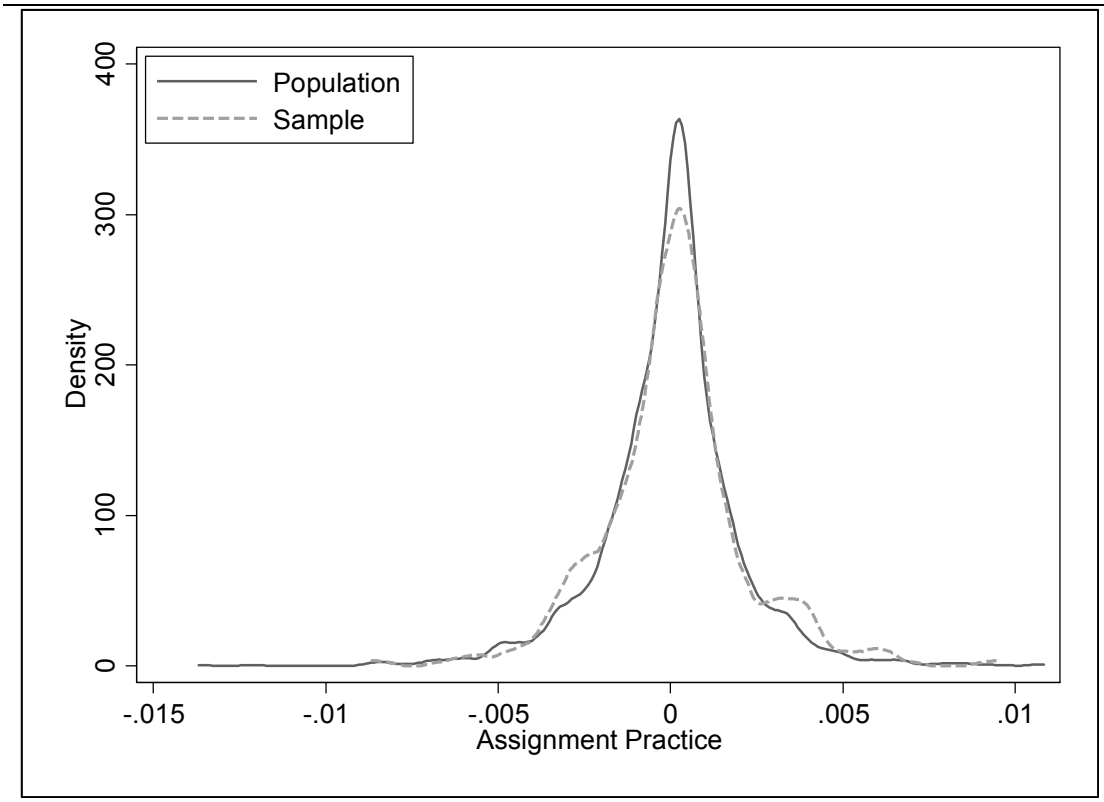

Figure 2. **Distribution of Assignment Practices Across Schools**

Table 7. **T-Test Results Comparing Average Principal Decision Making of Top 33% of Learning Centric Schools and Top 33% of Privilege Centric Schools**

	n	Learning Centric	Privilege Centric	Difference	t
Principals' authority over student assignment	152	4.42	4.50	-0.08	-0.54
Principals' influence over student assignments	151	4.51	4.59	-0.09	-0.68
Prior teachers' influence over student assignment	152	3.31	3.69	-0.38	-2.12*
Current teachers' influence over student assignment	152	2.32	2.47	-0.15	-0.0817
Importance of creating heterogeneous classes	149	3.75	3.79	-0.04	-0.020
Importance of creating a good mix of students with and without behavior challenges	151	3.80	3.88	-0.08	-0.043
Importance of pairing students with other students for positive influence	151	3.24	3.26	-0.02	-0.012
Importance of pairing students and teachers who are expected to work well together	151	3.68	3.53	0.15	0.0816
Use data to understand which teacher could best meet students' needs	154	4.13	4.23	-0.10	-0.75

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

All items are reported on a 1-5 Likert scale with greater values reflecting increased agreement with the practice referenced in the item stem.

The first block of four items pertains to influence in the assignment process; the second block of four items represents the goals of teacher-student assignment practices; the third block (one item) represents the extent to which data is used to address student needs in the assignment practices.

V. Discussion

We began this inquiry motivated by the recent body of work that has documented disconcerting trends in teacher-student assignment practices, as recently captured by Goldhaber, Lavery, and Theobald (2015). We affirmed several prior findings and extended our understanding of the sorting phenomenon by examining longitudinal trends and probing the role of leadership in teacher-student assignment practices. Our study yielded the following findings:

1. There is meaningful variation in assignment practices, some functioning to the advantage of students in poverty and some against.

2. Looking over a 9-year panel, schools are fairly stable in their assignment practices, with most (88%) of the variation occurring among rather than within schools.

3. Privilege-centric staffing practices do not appear to be offset by a strategic use of instructional support staff or smaller class sizes.

4. Students facing economic disadvantage encounter the greatest achievement growth when attending schools that use learning-centric staffing.

5. Assignment practices appear to be largely dictated by prior practices and norms in a school and are seldom disrupted by school leadership.

6. Principals report high levels of authority and similar intentions for staffing, regardless of the actual practice.

We see these findings to be troubling and indicative of an educational system where half of all schools are allocating human capital in a manner that systematically disenfranchises students who already face notable adversity. Perhaps most troubling is the static, entrenched nature of privilege-centric staffing practices. Despite the near-universal authority of school leaders to influence teacher-student assignment practices, principals seldom embrace this authority to reverse inequitable staffing. We observe principals' acquiescence to established privilege-centric sorting patterns even while principals claim to create classes that reflect heterogeneity and student needs.

Advocating a move away from privilege-centric staffing involves a careful consideration of tradeoffs. Experienced teachers may see changes to established assignment policies as a personal attack and leave the school or cultivate an undercurrent of toxicity in the school culture. Leaders need to cultivate a clear message that staffing changes are occurring because of the high value placed on seasoned educators; it is an honor, not a punishment. Involving the senior faculty in the process to create an equitable assignment policy is likely a fruitful strategy. Providing alternative ways to recognize these valued resources, through avenues such as performance pay, release time, course rotations, and the provision of additional resources could also lessen resistance to staffing changes.

We envision several mechanisms that may be contributing to the above findings. Hess (1999) envisions school change as transpiring as a result of expectations, capacity, will, and opportunity. These four factors can help us better understand the above findings and provide direction to address related shortfalls. The expectation for privilege- and learning-centric staffing that manifests in practice is, in part, a consequence of labor market sorting. Schools whose interests are influenced by teachers and parents looking to protect their professional and social standing are more likely to attract and hire school leaders who share similar perspectives (Colvin & Boswell, 2007). In such situations the school principal has no expectation, either internal or external, to deviate from the established staffing trend. The challenge of expectations may be exacerbated by the dominance of instructional leadership (e.g., Murphy, et al., 2007) in academic and professional dialogue that often overshadows or fails to integrate leadership endeavors involving the strategic management of human capital (Odden, 2011). The comparatively small voice of strategic staffing in the leadership literature, policy sphere, and professional practice further diminishes expectations of principals to enact learning-centric assignment practices.

Capacity, as used by Hess (1999), pertains to the ability of actors to induce change. The ideal approach to strategic staffing begins by envisioning each student as a holistic amalgam of personal and social components and each teacher as a similarly complex confluence of personality traits, cultural capital, and professional skills. Students and teachers are then matched to optimize the student experience, while concurrently considering all other possible matches and logistic restraints. Such staffing requires a tremendous depth of knowledge regarding each student and teacher. Information requirements aside, this approach to staffing demands substantial analytic skill to weigh the various sources of information, evaluate tradeoffs, and make optimal assignments across the school. Even in simplistic cases as we have investigated here, considering only student poverty and teacher experience, constructing optimal matching within the constraints of the system requires a non-trivial investment of time and attention. Often robust measures of teachers and students are lacking (Halverson, Grigg, Prichett, & Thomas, 2007) or, if available, have not been collected in a manner that readily facilitates staffing decisions (Goldring, et al., 2015). As the data demands of school leadership have increased, we have evidence to suggest that many leaders lack the requisite analytic skills, and data-literacy is often overlooked in leadership preparation programs (Hess & Kelly, 2007).

The will to enact change is a challenging concept to operationalize. Hess envisions will as "the intentions of school staff and students to change their patterns of behavior" (1999, p. 508). In particular Hess sees the larger policy environment as instrumental in setting the will of educators. State and federal policy provides scant expectations for staffing and assignment, perhaps with the exception of report cards that report various achievement gaps, which is an indirect expectation at best. The need to act contrary to organizational momentum, expend political capital, and operate in the absence of supportive policy creates a context that erodes the will of actors who see the merit of learning-centric staffing.

Given the near universal authority of school leaders to enact staffing policy, we see widespread opportunity for principals to establish equitable staffing practices. Taken collectively, labor market sorting, a lack of demand from school stakeholders, limitations in the quality of information available and ability to make use of the information, and the absence of policy incentives create an environment that diminishes the role of school leaders to make substantive change in their schools' assignment practices.

This is not to say that we see principals as impotent in the process nor do we see them as blameless. Rather, we need to see these staffing practices as highly entrenched, and efforts to shift privilege-centric assignment policies must come from multiple stakeholders setting the expectations, bringing the requisite capacity, cultivating the will, and seizing the opportunity to move the school in a more just, more equitable direction.

APPENDIX A

Table 9. **Descriptive Statistics of Schools With and Without Complete Principal Information**

	M	*SD*	*Min*	*Max*	*n*
Schools with Complete Information					
Proportion Low-Income	0.65	0.27	0	1	2345.00
Proportion Linguistically Diverse	0.15	0.17	0	1	2345.00
Proportion Special Needs	0.15	0.13	0	1	2345.00
Proportion Gifted	0.08	0.11	0	1	2345.00
Proportion Black	0.22	0.23	0	1	2345.00
Proportion Hispanic	0.23	0.22	0	1	2345.00
Proportion White	0.41	0.29	0	1	2343.00
Proportion Female	0.48	0.12	0	1	2343.00
Proportion Male	0.52	0.12	0	1	2343.00
Achievement: Grade 3 in 2011	200.46	9.93	149	238	1682.00
Achievement: Grade 4 in 2011	213.70	9.63	160	244	1678.00
Achievement: Grade 5 in 2011	220.65	10.06	163	267	1690.00
Achievement: Grade 6 in 2011	224.46	12.50	170	256	774.00
Achievement: Grade 7 in 2011	233.11	11.67	183	286	680.00
Achievement: Grade 8 in 2011	241.62	14.36	187	298	722.00
Schools with Incomplete Information					
Proportion Low-Income	0.67	0.28	0	1	1018.00
Proportion Linguistically Diverse	0.13	0.17	0	1	1018.00
Proportion Special Needs	0.22	0.25	0	1	1018.00
Proportion Gifted	0.05	0.10	0	1	1018.00
Proportion Black	0.28	0.27	0	1	1018.00
Proportion Hispanic	0.20	0.23	0	1	1018.00
Proportion White	0.40	0.31	0	1	1018.00
Proportion Female	0.43	0.23	0	1	1018.00
Proportion Male	0.57	0.23	0	1	1018.00
Achievement: Grade 3 in 2011	196.89	13.62	140	225	494.00
Achievement: Grade 4 in 2011	211.18	15.68	155	271	513.00
Achievement: Grade 5 in 2011	217.18	16.08	163	279	536.00
Achievement: Grade 6 in 2011	218.20	16.70	170	284	499.00
Achievement: Grade 7 in 2011	224.86	15.98	179	292	537.00
Achievement: Grade 8 in 2011	231.83	16.58	187	298	572.00

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