Exploring the Influence of National Board Certified Teachers in Their Schools and Beyond

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Abstract

Purpose: This paper explores the relative influence over school-wide policy and leadership activities of teachers certified by the National Board for Professional Teaching Standards. Interest centers on teacher leadership activities and perceived influence over school-wide policy and decision-making. In particular, the study asks whether National Board Certified Teachers (NBCTs) are engaged in leadership and influence that may be attributable to board certification.

Methods: Data come from a survey of the entire teaching faculties in 47 elementary schools in two states (N=1,282). Teacher perceived influence over school-wide policy and participation in leadership activities were regressed on NBCT status, demographic and assignment characteristics, and inclination towards teacher leadership, controlling for schools with fixed effects.

Findings: NBCTs engage in more leadership activities at both the school and district-levels than their non-board certified peers. Yet NBCTs do not report greater influence over school-wide policy than their colleagues.

Implications: The impact of NBCT status on opportunities for teacher leadership is complex, with NBCTs having the most impact on domains and activities closest to the classroom. The data also point to a potential paradox about the nature of teacher leadership as greater engagement in leadership activities does not lead to enhanced influence over school-wide policy.

Keywords: National Board for Professional Teaching Standards, teacher leadership, teacher influence

Exploring the Influence of National Board Certified Teachers in Their Schools and Beyond

The National Board for Professional Teaching Standards (NBPTS) grew out of initiatives in the 1980's aimed at the professionalization of teaching (Carnegie Forum on Education and the Economy, 1986). The purposes of the NBPTS are multiple, with at least three strands: increased professionalization of teaching through development of standards and assessments; identification and certification of accomplished and effective teachers; and promotion of teacher leadership within schools and in larger policy contexts. Studies are now emerging around each of these themes. For example, the Interstate New Teachers Assessment and Support Consortium developed entry standards for teaching based on the NBPTS standards, and some states have modeled their certification policy on these standards and assessments (e.g., Connecticut, California). NBPTS standards also have influenced teacher evaluation practice (e.g., Danielson & McGreal, 2000) together with more general, diffuse effects on teacher assessment policy and practice. Evidence then supports the proposition that the National Board has "changed the conversation" about teaching standards and assessments (Boyd & Reese, 2006).

A body of work also has explored the second theme—the relationship between NBPTS certification and student achievement. Some of these studies attest to National Board Certified Teachers' impact on student achievement (Cavalluzzo, 2004; Clotfelter, Ladd, & Vigdor, 2007a, 2007b; Goldhaber & Anthony, 2007; Vandevoort, Amrein-Beardsley, & Berliner, 2004). For example, a set of studies by Clotfelter, Ladd, and Vigdor (2007a; 2007b) in North Carolina found that NBPTS certification served as a significant signal of teacher effectiveness for both elementary and high school grades. Yet one study found no statistically significant effects of NBPTS certification (Sanders, Ashton, & Wright, 2005) and other studies found mixed results

about whether National Board Certification serves as a consistent indicator of teacher effectiveness (Cantrell, Fullerton, Kane, & Staiger, 2007; D. N. Harris & Sass, 2007). For example, Harris and Sass (2007) found that NBPTS certification is a positive indicator of teacher effectiveness in some grades and in some contexts, although there was also evidence to suggest that earlier NBCT cohorts were more effective than later cohorts. Hakel, Koenig, and Elliott (2008) reviewed this existing research on National Board Certification and concluded that while results are mixed, the preponderance of the evidence indicates that board-certified teachers tend to produce higher achievement than teachers who applied unsuccessfully for board certification and/or teachers with similar levels of experience who have not applied.

In addition to direct student achievement effects, National Board Certified Teachers (NBCTs) may also have indirect effects through their influence on other teachers or on school-wide policy. For example, NBCTs help more colleagues with their instruction than non-NBCTs, even when controlling for their inclination towards leadership and willingness to apply for NBPTS certification (Author, 2008). NBCTs also serve in leadership roles, although studies have raised questions about this and found the principal's stance to be a critical factor in how NBCTs are viewed and utilized in schools (Koppich, Humphrey, & Hough, 2007; Author, 2008).

In total, the federal, state, and district sources have invested heavily in the NBPTS (Boyd & Reese, 2006). In addition to funding received directly by NBPTS, some states and districts subsidize the $2,300 cost to teachers for pursuing National Board Certification and many offer financial incentives for successful candidates. These investments have resulted in tremendous growth of the number of NBCTs, doubling in the past five year to more than 82,000 in 2009. Some states have invested quite heavily in the NBPTS, with North Carolina, Florida, and South Carolina having over 15,000 NBCTs, 13,000 NBCTs, and 7,000 NBCTs, respectively.[1] Given

the large financial investment in NBPTS, most of the research has concentrated on the effectiveness of NBCTs as measured by state tests. Less is known about the experiences and impact of NBCTs in their schools and in the larger profession. For example, are NBCTs influential within their schools? What leadership activities—such as mentoring other teachers, serving as team leaders, and providing professional development—do they engage in at the school, district, and state levels? This paper explores the leadership activities of NBCTs together with their self-reported influence over school-wide policy. In particular, this paper examines the nature of NBCTs' teacher leadership and the extent to which NBCTs use their expertise outside of their own classroom to impact the larger educational community.

The NBPTS, Teacher Leadership, and Influence

The National Board for Professional Teaching Standards (NBPTS) was created in response to the Carnegie Foundation report, *A Nation Prepared: Teachers for the 21st Century*, and was part of a larger call to restructure the teaching profession and improve the education and status of teachers (Darling-Hammond, 1988; National Commission on Teaching and America's Future, 1996). Professionalization reforms stem from concerns about the general status of teaching, its attractiveness as a career option, the conditions of teaching work in schools, and the potential leadership activities in which teachers may participate in their schools and in larger decision forums such as the district and the state.

Key to these professionalization efforts have been reforms to encourage teacher leadership (York-Barr & Duke, 2004). As part of this general thrust, the NBPTS endorsed teacher leadership as a standard for accomplished teachers. The fifth core proposition of the NBPTS states that accomplished teachers collaborate with other teachers and work "with other professionals on instructional policy, curriculum development and staff development" (National

Board for Professional Teaching Standards, 2002, p. 4). Part of the mission of the NBPTS is to "integrate National Board Certification in American education and to capitalize on the expertise of National Board Certified Teachers."[2] NBCTs—with their documented instructional expertise—were envisioned to take on leadership roles and responsibilities in school, district, and state venues, perhaps by developing curriculum materials, mentoring new teachers, evaluating other teachers, or providing professional development. This paper explores whether such developments were taking place.

In keeping with the aspirations of the NBPTS, a general "theory of action" may be adduced that involves a series of linkages (Argyris, 1985). First, that the process of board certification serves both to attract accomplished teachers and to enhance their effectiveness via the certification process, which serves as a form of professional development. Then, that board-certified teachers would begin to assume a variety of formal and informal leadership roles in schools. Next, that through these roles NBCTs would exercise influence over key actions and decisions in schools that might range from induction of novice teachers, to curriculum development, instructional improvement, team-building, assessment of student learning and of teaching, and others. Such influence would then translate to school improvement, thence to student achievement and other learning outcomes. Admittedly, this is a complex chain that most likely would unfold gradually and in "bumpy" rather than smooth fashion. Sources of resistance, contestation, and inertia might be expected to challenge the basic theory of action and to complicate the process. Our study provides an initial test of the process through which board-certified teachers are received in their schools and come to exercise influence. In particular, our study examines the relationship between leadership activities and perceived influence over

school-wide policy, comparing NBCTs to non-NBCTs. We advance several hypotheses based on this reform's theory of action.

Hypothesis 1: NBCTs participate in more leadership activities in the school, district, and state than do their non-NBCT counterparts with similar characteristics.

NBPTS certification serves as an indicator of instructional expertise. When principals, district leaders, and state policymakers are looking for expert teachers to participate in various leadership activities and to take up leader responsibilities, they will rely on NBPTS certification as a signal for advanced competence.

Hypothesis 2: NBCTs have more influence over school-wide policy than other teachers in their schools that do not have NBPTS certification.

NBCTs may have additional influence over school-wide policy because of their various leadership activities. Yet even if NBCTs do not participate in more leadership activities, they may exert influence over school-wide policy through other channels, such as providing instructional expertise to school leaders or colleagues (Author, 2008).

Understanding the extent to which NBCTs participate in these types of professional activities and the influence they have on instructional policies and decisions is important in evaluating the impact of the NBPTS on the careers of teachers individually, and on their potential for "distributed leadership" in schools (Gronn, 2000; Spillane, 2006).

Prior Research on NBCTs and Leadership

Despite the National Board's aspirations, there is some evidence that questions whether NBCTs provide extraordinary leadership or influence. A study that overlapped with ours has found that NBCTs have been frustrated in their efforts to exert leadership and influence in their schools (Koppich et al., 2007). Based on survey and case study data from six states (California,

Florida, Mississippi, North Carolina, Ohio, South Carolina) this study found a variety of barriers to such leadership, including the key role of administrators and the attitudes and beliefs of other teachers in the schools where NBCTs were located. These investigators observe,

> It is still the case in teaching that those who step outside expected roles and responsibilities can expect some form of colleague rebuke. More than half of all NBCTs (53%) report that, "Teachers who are involved in innovation form a distinct and separate group in my school." Nearly half (43%) say that, "My school culture is not welcoming of teachers stepping into leadership positions." Thus, NBCTs go to considerable lengths to downplay any distinction between themselves and their non-NBCT colleagues. They are nearly uniformly wary of publicly asserting that board certification affords them—or should—differential professional status. The comment of one NBCT was echoed by many others: "There are a lot of [non-NBCTs] who have the same abilities. I'm not sure NBCTs are better than others" (p. 19).

And they conclude,

> The advent of the National Board for Professional Teaching Standards has done little to quell this professional sensibility. As one focus group member told us, "Nothing about the process [of becoming board certified] trains you to be a change agent. If you don't have it intrinsically, it's really hard to stand up to negative colleagues. It's a lot easier to go into your own [class]room, close the door, and just do your job well" (pp. 19-20).

Some evidence from the case studies completed in conjunction with the research reported here tend to support this observation. NBCTs, in this project, had to downplay the status marker conferred by board certification in order not to provoke resentment, even hostility, among other teachers (Author, in press). Such leveling tendencies have been the historical norm in teaching (Lortie, 1975) and might be expected to complicate teacher leadership and influence over school-wide policy.

While these studies point to conditions that restrict NBCTs' ability to serve as a change agent in their school through leadership activities and use their documented instructional expertise to influence school-wide policy, these types of activities are one of the key goals of the NBPTS. As noted above, part of the mission of the NBPTS is to identify

accomplished teachers so schools, districts, and states can use their instructional expertise to improve schooling more broadly. Indeed, a brochure for interested candidates highlights how the process enables teachers to "Demonstrates leadership skills" and "Helps expand expertise and influence" as reasons why someone would pursue the certification.[3] Further, one of the four portfolio entries that are evaluated during the certification process requires documentation of how the candidate works with colleagues and other adults to improve student learning both in their classroom and beyond. Thus while prior research points to limitations in NBCTs' ability to engage in teacher leadership activities and influence, the NBPTS does see teacher leadership as part of their mission. The study reported here both challenges and extends this prior research. While counter-evidence is presented, ambiguities are noted, which calls for further commentary discussed in the conclusion.

Effects of Teacher Leadership and Influence

An investigation of the nature of NBCTs' teacher leadership requires understanding what is meant by teacher leadership and why it might be important. While widely celebrated (see, e.g., A. Harris & Muijs, 2005; Lieberman & Miller, 2004; Murphy, 2005) teacher leadership is not well-defined (A. Harris, 2005; York-Barr & Duke, 2004). This paper identifies the concept with teachers using their expertise to promote instructional improvement without leaving the classroom (Silva, Gimbert, & Nolan, 2000; York-Barr & Duke, 2004). Many districts are introducing new positions intermediate between teaching and administration, such as instructional coaches or program facilitators. But the literature on distributed leadership continues to reckon that classroom teachers themselves participate in important leadership activities without leaving their classrooms. Such leadership takes both specific (formal) and more diffuse (informal) forms (Stoelinga, 2008). In specific terms, teacher leaders may engage in

a variety of formal leadership activities such as mentoring teachers, providing professional development, or developing curriculum. Teacher leaders may work within their school, with other teachers and administrators in their district, and/or with educators, curriculum and assessment developers, or policymakers at the state level. A review of the teacher leadership literature however suggests that most work of teacher leaders occurs inside schools where teacher leaders assume discrete roles and responsibilities (Mangin & Stoelinga, 2008; York-Barr & Duke, 2004).

In less specific, more diffuse terms teachers may serve as leaders without taking on explicit roles or functions (Leithwood & Mascall, 2008). Indeed, many reform efforts and leadership activities rely on teachers to provide support to other teachers, to lead collaborative efforts, to encourage mutual professional growth, and to help manage the process of instructional change (Silva et al., 2000; Supovitz, 2008; York-Barr & Duke, 2004). Such participation in various informal leadership activities enables teachers to influence school-wide policies and practices in a variety of ways. Still, the literature has not clarified the relationship between engaging in leadership activities and gaining influence over school-wide policy and outcomes. In this paper, teacher leadership is operationalized both in terms of participation in leadership activities and as influence over school-wide policy.

Why though should we be concerned about teacher leadership and school-wide influence? Three main reasons have appeared in the literature: 1) to take advantage of teacher knowledge and expertise in the design and operation of educational programs, activities, and curricula; 2) to recognize and reward highly accomplished teachers, thereby encouraging their retention in the classroom; and 3) to benefit individual teacher leaders, their colleagues, and students (Leithwood & Mascall, 2008; York-Barr & Duke, 2004). The first two have been

advanced as aspects of the professionalization agenda, while the third offers evidence of a number of individual benefits from teacher leadership. For example, when teachers are engaged in leadership activities, they enjoy greater satisfaction, motivation, and confidence in their teaching (A. Harris, 2005). They also make changes to their own instructional practices and become open to new challenges (York-Barr & Duke, 2004). Teachers who are involved in school-wide decisions over grading, staff development, teacher evaluation, and student discipline also report more satisfaction with these aspects of their job (Taylor & Bogotch, 1994). Likewise, teachers report greater satisfaction when they have a role in designing the school plan and in school governance (Johnson & Landman, 2000). Further, the amount of input teachers report having over school-wide policy is associated with a reduced likelihood of quitting teaching or transferring schools (Ingersoll, 2001). Likewise, teachers are more likely to transfer schools if they have a principal who discourages teacher leadership via an authoritarian leadership style, while such likelihood is decreased under principals who encourage greater participation in decision-making (Bempah, Kaylen, Osburn, & Birkenholz, 1994).

The effects of teacher leadership purportedly extend beyond the teacher leaders themselves. When teachers are involved in deciding school-wide policy there is greater organizational change and sustained reform and improvement efforts (A. Harris, 2005). Teacher leaders may also impact the classroom practices of other teachers (York-Barr & Duke, 2004). Teachers' perceptions of their influence over school-wide policies are also related to staff cohesion and conflict, with teachers reporting a more cohesive staff and less staff conflict when they have more influence over school-wide decisions (Ingersoll, 2003); although teacher leadership may create tensions among colleagues if it changes the peer to peer relationship between teachers and disrupts the egalitarian ethos of teaching (York-Barr & Duke, 2004).

Further, schools that empower teachers and, in particular, provide teachers with greater influence over the organization of student experiences, demonstrate more organizational learning as teachers interact more and confront shared problems as a group (Marks & Louis, 1999).

The evidence about the relationship of teacher leadership to improved student achievement is mixed (A. Harris, 2005; York-Barr & Duke, 2004). For example, one study (Taylor & Bogotch, 1994) found no significant relationships between teacher participation in decision-making and student achievement, behavior, or attendance. On the other hand, collective efficacy—"the judgment of teachers in a school that the faculty as a whole can organize and execute the courses of action required to have a positive effect on students" (Goddard, Hoy, & Woolfolk Hoy, 2004)—is associated with higher student achievement (Goddard, 2001; Goddard, Hoy, & Woolfolk Hoy, 2000). One element of collective efficacy is having influence over instructional decisions (Goddard et al., 2000). Teachers may exercise their collective power through influencing school policy in participative forms of leadership or by engaging in activities that give them opportunities to influence curriculum and instruction. Thus, the leadership activities that benefit teachers and their colleagues in the ways described above may well contribute to a sense of collective efficacy that in turn influences student achievement.

Less is known about why some teachers assume leadership responsibilities. Most research on the antecedents of teacher leadership focus on the school culture that allows teachers to engage in leadership activities (York-Barr & Duke, 2004). A few studies have examined the qualities that distinguish teacher leaders or the qualities that lead some teachers to take on leadership activities. Teacher leaders have excellent teaching skills and tend to be at a personal or career stage which provides time for additional responsibilities (Katzenmeyer & Moller, 2001). Teacher leaders are driven by a need for achievement, new challenges, and lifelong

learning that makes them more inclined to assume new responsibilities (LeBlanc & Shelton, 1997; Wilson, 1993). At the same time, teacher leaders also feel a need for collaboration and affiliation with their peers, making them more inclined to seek out relationships with other teachers (LeBlanc & Shelton, 1997; Wilson, 1993). That some teachers may feel a greater need to achieve or collaborate with peers suggests that an exploration of whether NBCTs engage in more leadership activities or have more influence than their peers should also consider the extent to which teachers are inclined towards leadership.

While many issues related to teacher leadership and influence have not been resolved, the evidence suggests their importance both to the healthy functioning of schools and to prospects for making teaching an attractive profession. The National Board has sought to capitalize on these claims through its mission and activities, and this paper takes up one study's evidence on this topic. In the sections to follow, the data, methods, and measures used in this study are described, and then the paper turns to findings and conclusions.

Data

Data for this paper come from a study of the organizational impact of NBCTs (Author, in press; Author, 2008) and include a survey of the entire teaching faculties in 47 elementary schools in two states, one in the Midwest and one in the South. The two states in this study met three criteria: 1) a significant number of NBCTs relative to the state population of teachers and a top ten rank in terms of number of NBCTs by state; 2) a supportive infrastructure and incentives to pursue National Board Certification; and 3) locales not already heavily studied. The first two criteria were used to understand the impact of NBCTs under a "best-case" scenario. If NBCTs are to have an impact on the teaching profession, it would be in states with a significant

investment and presence of NBCTs. The third criterion was used to broaden the study of NBCTs beyond samples in existing studies.

A list of all NBCTs in both states in fall 2003 was obtained from the National Board for Professional Teaching Standards, including the address and school assignment for each NBCT. This database was collapsed by school, resulting in a list of schools in the two selected states and the number of NBCTs in each school. This school list was merged with data on all elementary schools in these states from the Common Core of Data (CCD). Two large urban districts in each state were selected as focal districts based upon district policies and incentives related to National Board Certification. Neighboring districts around each urban district were randomly selected. The number of neighboring districts selected varies with the size of districts in each state; more neighboring districts were selected in the state where districts tend to be smaller. The neighboring districts are classified in the CCD as both suburban and rural, so the selected districts represent a range of community types.

Once districts were chosen, the CCD was used to estimate the number of teachers in each school and grouped schools by the density of NBCTs in the school. From this stratified list, six schools in each urban district were randomly selected (a school with no NBCTs, and five additional schools with varying numbers of NBCTs), as well as six schools in each neighboring district or group of neighboring districts (one school with no NBCTs and five other schools with varying numbers of NBCTs), for a total of 48 elementary schools. One school declined to participate, for a final sample of 47 schools.

The survey was administered in regularly scheduled staff meetings. Project staff administered the survey in some schools, with local personnel distributing the survey in other schools. All schools were given $25 towards the purchase of refreshments for the staff meeting

when the surveys were distributed. Schools that only participated in the survey component of this study were given $125. One school in each of the four urban districts also participated in case studies. These schools were compensated with an additional $375.

A total of 1,583 surveys were completed with an average school response rate of 84%. As all teachers in the sampled schools were surveyed, the sample includes NBCTs, teachers who unsuccessfully applied for National Board Certification, and teachers who had never applied for National Board Certification. For all analyses, only those teachers who had completed more than 4 years of teaching are included because teachers are only eligible to apply for National Board Certification in their fourth year and obtain results the following fall. The final sample totaled 1,282 teachers. Of the teachers in the final sample, 177 (13.8%) are NBCTs and 121 (9.4%) applied for National Board Certification but were not certified. The remaining teachers (76.8%) had never applied for National Board Certification.

The survey instrument was designed based on the hypotheses about the impact of NBCTs on the school community and includes measures of school and district support for certification, perceptions of NBCTs, teachers' inclination towards leadership, their perception of their own influence over school-wide policies, leadership activities, and background information. The items used to create these measures and their measurement properties can be found in the Appendix. The instrument is available online at http://www.msu.edu/~mccrory/NBPTS/. To allow for comparisons with previous research, questions were adapted from existing measures. In particular, the measure of perceived teacher influence over school-wide policy was adapted from the U.S. Department of Education's Schools and Staffing Survey SASS and is consistent with Ingersoll's (2003) distinction between classroom and school-wide zone of influence. Our review of other research on teacher influence (e.g., Taylor & Bogotch, 1994) led us to include two

additional domains over which teachers may have influence over school-wide policy: assigning students and teachers to specific classes. Further, items about leadership activities and inclination towards leadership were adapted from a previous study of NBCT teacher leadership activities (Yankelovich Partners, 2001, April). These items were adapted to make them appropriate for non-NBCTs and to condense the list of possible activities to reduce respondent burden.

Methods

In addition to their National Board Certification, NBCTs have other characteristics that distinguish them from their non-NBCT colleagues. Table 1 presents demographic characteristics of NBCTs and non-NBCTs. NBCTs have about the same number of years of experience as their peers, although they are more likely to be female. NBCTs are also more likely to have at least a master's degree. NBCTs and non-NBCTs had similar racial/ethnic backgrounds and mothers with similar levels of education.

The survey asked teachers about various leadership activities in which they participated. Teachers reported the types of activities in which they participated as well as the organizational level of their participation. Teachers may have participated in leadership activities at the school, district, and state levels. The percentage of NBCTs and non-NBCTs that participated in each activity was compared using chi-square statistics. To create an overall measure of teacher leadership, an exploratory factor analysis was performed. This factor analysis indicated that teacher participation in leadership activities has three main factors reflecting the three organizational levels (school, district, and state). Three measures of participation in leadership activities were created that reflected the factor analysis results. The school-level leadership activity measure has a reliability of 0.70, the district-level leadership activity measure has a reliability of 0.65, and the state-level leadership activity measure has a reliability of 0.59. Due to

the low reliability of the state-level leadership activity measure, it was not included in the analyses described below. The items in the school- and district-level measures and their factor loadings are located in the appendix.

As noted above, there are notable demographic differences between NBCTs and their non-NBCT peers. Some of these individual characteristics may explain the differences in teachers' leadership activities. As these characteristics are associated with being an NBCT, NBCTs may appear to participate in more leadership activities even though it is not their NBCT status that provides them with access to these activities. For this reason, teacher leadership activities at the school and district-levels were regressed on a variety of individual characteristics to isolate the effect of being an NBCT. As the number of leadership activities in which teachers participate may vary by school, the model controls for schools with fixed effects. The following model was run:

$$LeadershipActivities_{ts} = \alpha + \beta'_1 Demographics_{ts} + \beta'_2 Assignment_{ts} + \beta'_3 NBCT_{ts} + \mu_s + \nu_{ts}$$

where $LeadershipActivities_{ts}$ is the total number of leadership activities in which the teacher participates at the specified level (school or district-level). These dependent variables are regressed on an intercept, a vector of demographic characteristics with coefficients β_1, a vector of characteristics about the teacher's assignment with coefficients β_2, and the teacher's NBCT status with coefficient β_3. There is an unobserved, school-specific error term (μ_s) and a random error term (ν_{ts}).

A second model (Model 2) was run after this basic model to control for the teacher's inclination towards leadership, which may be related to both a teacher's decision to pursue National Board Certification and to their leadership activities. Previous analyses indicate that this measure has a large and statistically significant effect on the propensity to become an NBCT

(Author, 2008). Three items were used to create this measure, which has a reliability of 0.89. Teachers who did not participate in leadership activities were allowed to respond with "Not applicable" and slightly over 18% of teachers have missing data for the items used to create this measure. For teachers with missing data, the inclination towards teacher leadership was set to the sample mean and a dummy variable was created to flag those with missing data. The inclination towards teacher leadership measure was standardized to have a mean of zero. The items in the inclination towards leadership measure and their factor loadings are located in the appendix. The correlation between a teacher's inclination towards leadership and NBCT status is .16, indicating that NBCTs are somewhat more likely to be inclined to engage in teacher leadership.

The level of perceived influence over various policies was first compared using two-tailed t-tests. To further explore the relative influence of NBCTs over school-wide policy using the rich set of variables available from both NBCTs and non-NBCTs in the same school, an overall measure of perceived teacher influence over school-wide policy was created. Exploratory factor analysis indicated that there was one strong factor underlying all of the influence variables. This overall perceived influence has a Cronbach alpha of .85, indicating strong internal reliability. The items used to create this measure, and their factor loadings, are located in the appendix. The perceived influence measure is standardized with a mean of zero and standard deviation of one for the complete sample. A series of models with overall perceived influence over school-wide policy as the dependent variable were then run, again controlling for schools with fixed-effects. The first model is similar to those for teacher leadership activities and includes the teacher's NBCT status, demographic characteristics, and assignment information. An additional model was also run controlling for the teacher's inclination towards leadership.

Results

Teacher Leadership

A key component of the professionalization goal of the NBPTS is to encourage teachers to engage in more leadership activities. Table 2 shows data on teacher participation in leadership activities. NBCTs participate in more leadership activities than do non-NBCTs in the same school. This is true at the school, district, and state-levels. For example, about 70% of NBCTs mentor other teachers in their school and 16% mentor other teachers in their district, compared to 39% of non-NBCTs who mentor teachers in their school and 8% of non-NBCTs who mentor teachers in the district. Likewise, 53%, 38%, and 15% of NBCTs provide professional development at the school, district and state-levels, compared to 36%, 13%, and 2% of non-NBCTs who provide professional development at these various levels. With the exception of advising on policies, there is a decreasing pattern of participation in leadership activities as the domain moves away from the teacher's immediate context.

The bottom section of Table 2 shows the mean number of leadership activities at the school and district level engaged in by NBCTs and non-NBCTs. The data in this table support the pattern seen in the top section of Table 2. All teachers—NBCTs and non-NBCTs—participate in more teacher leadership activities within their school than at the district-level. Still, at each level, NBCTs participate in more leadership activities than non-NBCTs.

As NBCTs differ from non-NBCTs in other ways, particularly their inclination towards leadership, a fixed effects model was run to disentangle the effect of being an NBCT from other effects on teacher participation in leadership activities at these various levels. Table 3 presents these results. Model 1 regresses participation in either school- or district-level leadership activities on NBCT status, teacher qualification and demographic information, and assignment

characteristics. Model 2 includes the inclination towards teacher leadership measure and the dummy variable indicating whether this measure was missing. NBCTs participate in about 1.1 more activities at the school-level than non-NBCTs, controlling for demographic and assignment characteristics. When also controlling for teachers' inclination towards leadership, NBCTs still participate in about 0.83 more leadership activities at the school-level (an effect size of .43). Not surprisingly, teachers who are already inclined towards teacher leadership do participate in more activities at the school- and district-level, although the effect sizes are small. At the school-level, teachers who are one standard deviation above the mean in their attitudes toward teacher leadership participate in about 0.32 more leadership activities than other teachers. The effect of being an NBCT is larger than the effect of being inclined towards teacher leadership (0.83 versus 0.32).

NBCTs also participate in about 0.73 more leadership activities at the district-level than their non-NBCT peers. The effects are slightly smaller when controlling for inclination towards leadership, but the effect of being an NBCT is still larger than having positive attitudes towards teacher leadership. Comparing the effect sizes of NBCT status on participation in leadership activities at the various organizational levels, NBCT status seems to have a similar effect at the school- and district-levels (effect sizes of .43 and .46, respectively).

There are few teacher characteristics in the model that affect participation in leadership activities. Those who are not classroom teachers do participate in more leadership activities at the school- and district-levels than regular classroom teachers, possibly because these activities may be part of their regular duties. Teachers with a master's degree or above participate in somewhat more activities at both levels than their less credentialed peers, although being inclined towards leadership appears to reduce this effect. It should be noted, however, that all

models have a low R-squared. It appears that demographic, assignment, and NBCT status of the teacher together do not explain much variation in a teacher's leadership activities at the school or district-levels.

Teacher Perceived Influence

The teacher survey also included questions about their perceptions of their own influence over school-wide policy. Examining whether NBCTs have greater influence over school decisions is an indication of the extent to which NBCTs are fulfilling the fifth core principle of the NBPTS and the extent to which they are instructional leaders in their schools. Analyzing the results from the survey, however, shows modest results for the impact of NBCT status on teachers' perception of their influence over school-wide policy. Table 4 shows the results for teachers who report having a moderate or great amount of influence over school-wide policy and shows the responses of NBCTs and non-NBCTs in the same school with at least four years of experience. In this sample, NBCTs are significantly more likely to say they have moderate or great amount of influence on establishing curriculum and evaluating teachers, but no other differences are statistically significant.[4] Table 4 also presents the results for overall teacher perceived influence over school-wide policy. While NBCTs reported higher levels of overall teacher perceived influence over school-wide policy than non-NBCTs in the same school, this is not statistically significant at the p=.05 level.

Table 5 presents the results from the model exploring the relationship between NBCT status, demographic and assignment characteristics, and inclination towards leadership on overall perceived influence over school-wide policy. The model in column 1 shows the effects on overall influence without taking into account teachers' inclination towards leadership. The model in column 2 shows the same effects including teachers' inclination toward leadership.

Controlling only for demographic and assignment characteristics of teachers (column 1), NBCTs do have more perceived influence over school-wide policy than non-NBCTs. Further, teacher assignment does impact the perceived influence of teachers over school-wide policy. Faculty members who are not classroom teachers report slightly less than half a standard deviation (.45 SD) more influence over school-wide policy than regular classroom teachers, which was the largest effect of all included variables. These individuals may be curriculum specialists (i.e., reading specialist) or assistant principals, and thus may be well placed to exert influence over school-wide policy. Among classroom teachers, NBCTs report more influence over school-wide policy. In line with Ingersoll's (2003) findings, there are few teacher characteristics that predict their perceived influence over school-wide policy.

The second model (column 2) controls for teachers' inclination towards leadership. The measure of teacher inclination toward leadership appears to remove the effect of being an NBCT on influence over school-wide policy. Once this measure is included, the NBCT effect is smaller and no longer statistically significant. As NBCTs are already inclined to participate in leadership activities, it may be this attitude about leadership—and their resulting leadership activities—that allows teachers to influence school-wide policy, rather than their National Board Certification. As in the models of teacher leadership activities, these models have a low R-squared suggesting that few observed variables explain teacher influence over school policy.

Discussion and Conclusion

If we return to our hypotheses, our results reveal a disconnect in the theory of action's logic chain. While board-certified teachers do assume leadership roles to a greater extent than their non-certified peers, they do not appear to have greater perceived influence over important school-wide matters in their schools. Although NBCTs do not perceive greater influence than

their peers, NBCTs are engaging in many types of leadership activities and are doing so at higher rates than non-NBCTs. Even when controlling for a teacher's inclination to participate in teacher leadership, NBCTs engage in more leadership activities than their peers in the same school.

There are several possible explanations for these findings. First, the process involved in applying for National Board Certification and the network of teachers to which NBCTs are exposed may entice teachers to engage in more leadership activities than they would have without NBCT status. Second, the network may also provide NBCTs with more opportunities for leadership activities, particularly at the state level. Third, NBCT status could be serving as a signal to administrators by which they can identify expert teachers to tap for leadership responsibilities. And fourth, state policy may encourage NBCTs to assume leader roles in return for fiscal support for national board certification. This was the case in one of the two states sampled. All of these explanations suggest that National Board Certification does contribute to greater leadership opportunities for teachers and thus may fulfill some of the goals of the teacher professionalization agenda.

But the main result of this paper—that NBCTs engage in more leadership activities but do not perceive more influence over school-wide policy in most areas than their peers—point to a potential paradox about the nature of teacher leadership if greater engagement in leadership activities does not lead to enhanced influence over school-wide policy. In particular, this result highlights the distinction between perceived influence and actual influence. Perceived influence over school-wide policy appears disconnected from serving in professional roles that might facilitate greater influence on the school community. It may be that school leaders are open to including teachers in leadership activities, but outside of decisions closely related to instruction, such as establishing curriculum, serving in these positions does not result in more actual

influence over school-wide decisions. This may reflect a type of contrived professionalization just as contrived collegiality may take the place of real collaborative school cultures (Hargreaves, 1994). Future research should explore the relationship between particular leadership activities and influence—both perceived and actual—over important organizational decisions.

This research started from hypotheses about the impact of NBCTs on school community. Give the propositions of the National Board, this study was designed to investigate ways in which NBCTs might exert leadership or influence outside of their classrooms and to better understand the motivations for participating in the certification process and the rewards and responsibilities for succeeding. This analysis indicates that NBCTs are engaged in more leadership activities than their colleagues, but that these professional activities do not necessarily lead to greater perceived influence over school-wide policy except for the areas of establishing school-wide or departmental curricula and evaluating other teachers. Most NBCTs engage in some type of teacher leadership activity, particularly at the school level. Although NBCTs are more likely to engage in some types of leadership activities than others, they do participate in some activities in large numbers, such as mentoring other teachers, serving as a team leader, or developing curriculum materials. NBCTs are also more likely to take on leadership roles at the district and state-levels, suggesting that the influence of NBCTs extends beyond their own school.

This finding suggests that the NBPTS is successful in part of its mission—to identify accomplished teachers who are used as a resource for school, district, and state educational improvement. Yet NBCTs are still most likely to engage in those leadership activities that are most closely tied to classrooms. As more teachers become National Board certified and the

density of NBCTs rises among the state's teaching population, finding more ways for NBCTs to engage in leadership activities will become important if the NBPTS is to meet its goals.

Finally, the conflicting findings regarding the effect of NBCT status on perceived teacher influence over school-wide policy and leadership activities also appear to contradict the findings from the Koppich, Humphrey, and Hough (2007) research as well as other data from the larger project which finds that NBCTs do provide more instructional help to their colleagues but that the meaning of National Board Certification is ambiguous (for details, see Author, forthcoming; Author, 2008). This complex picture of NBCT impact may have both substantive and methodological explanations. Substantively, these studies together seem to suggest that NBCTs can influence classrooms other than their own, but that it occurs on a teacher-to-teacher basis and not at the organizational level. Teaching's egalitarian ethos (Lortie, 1975) may conflict with efforts to create distinctions among teachers at an organizational level. This explanation is supported by the findings that the overall perceived influence that an individual teacher has over school-wide policy is highly variable and may be more closely related to unobserved individual and school characteristics than National Board Certification. Organizational influence may depend on personal characteristics of individual teachers or the relationship between an individual teacher and a principal or whether principals know how to take advantage of identified expert teachers (Koppich et al., 2007).

Methodological explanations might also account for the apparent anomalies within and across these studies. First, results may vary by data source. Mail surveys, focus groups, individual interviews, and observations yield different perspectives on the nature of teacher leadership and influence. Second, underlying constructs might account for differences. Ideas

such as teacher leadership, influence, helping behavior, and others tend to be vague and under-theorized in the literature. Conflicting findings may owe to such conceptual difficulties.

Third, these conceptual difficulties are compounded by using both objective and subjective measures of NBCT impact. While all measures used rely on self-report and thus are influenced by subjective perceptions, it is noteworthy that the two measures that rely on relatively more objective reports of actual behavior—participation in leadership activities and number of colleagues helped—provide the strongest evidence that NBCTs are having an impact on their school communities. In contrast, the relatively more subjective measures—perception of influence, meaning of NBCT status, and role of NBCT status in conferring leadership roles—downplay the impact of NBCTs on their schools. Integrating the findings within and across these studies may suggest that NBCT status does impact behavior, but the egalitarian ethic in teaching (Lortie, 1975) creates a need to level the distinction and mitigate the sense of influence that the extra roles might facilitate. The research reported in this paper tends to favor the hypothesis that NBCTs are taking up leader roles and enacting leader functions, even as they are not perceiving exceptional influence over school policy and decision-making. But studies in this vein clearly require improved theory, tighter specification of concepts, and better concurrent validity across methods and measures. We commend such work in future studies of NBCTs specifically, teacher leadership and influence more generally.

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Table 1

Descriptive Characteristics of NBCTs and non-NBCTs

	NBCT	Non-NBCT
Total years teaching	17.3	17.9
	(9.20)	(12.62)
Female	0.966*	0.925
	(0.182)	(0.263)
Caucasian/White non-Hispanic only	0.851	0.856
	(0.366)	(0.379)
African-American/Black non-Hispanic only	0.138	0.131
	(0.346)	(0.338)
Other race/ethnicity [1]	0.006	0.018
	(0.079)	(0.132)
Masters degree or above	0.797*	0.639
	(0.404)	(0.481)
Not a classroom teacher	0.069	0.104
	(0.254)	(0.306)
Part-time teacher	0.011	0.014
	(0.107)	(0.117)
Mother's education bachelors degree or above	0.362	0.329
	(0.482)	(0.470)
Inclination towards leadership	0.40*	-0.08
	(1.02)	(0.99)
Inclination to teacher leadership missing[2]	.068*	.187
N	177	1105

[1]Other racial/ethnic minority, including multiple race/ethnicities

[2] Teachers who did not participate in any leadership activities may have responded with "Not applicable." For analysis purposes, these teachers and other teachers who did not respond to

questions about their inclination towards leaders had the sample average imputed for their inclination towards leadership.

* $p < .05$. These p-values reflect t-tests comparing the means for NBCTs and non-NBCTs.

Table 2

Percentage of NBCTs and Non-NBCTs Who Participate in Various Leadership Activities and Mean Number of Leadership Activities at the School, District, and State-Levels

	School-level		District-level		State-level	
Leadership Activity	NBCTs	Non-NBCTs	NBCTs	Non-NBCTs	NBCTs	Non-NBCTs
Mentor other teachers	69.5^	38.5	15.8^	7.9	n/a	n/a
Serve as a team leader (e.g., grade level, subject area, or program leader or consulting teacher)	70.6^	50.4	17.0^	8.5	1.1	0.4
Develop and/or select curriculum materials	40.7^	32.0	40.1^	21.9	4.5^	1.0
Evaluate other teachers	30.5^	17.3	10.2^	3.8	4.0^	0.5
Serve on teacher hiring committee	41.8^	25.1	2.3	1.5	n/a	n/a
Provide professional development	53.1^	36.0	38.4^	13.0	15.3^	2.2
Work with teacher preparation programs	36.7^	21.3	9.6^	3.0	10.2^	3.4
Advise on policies	6.2	9.0	7.9^	3.7	6.2^	2.0
Mean number of activities	3.49*	2.30	1.41*	0.634	n/a	n/a
	(1.93)	(1.97)	(1.48)	(1.12)		

Note: N=1282. Standard errors in parentheses. Due to the low reliability of the state-level leadership activity measure, the mean is not shown. The survey did not ask teachers about mentoring other teachers or serving on a teacher hiring committee at the state level.

^ $p < .05$. These p-values reflect chi-square tests indicating the distribution varies between NBCTs and non-NBCTs.

* $p < .05$. These p-values reflect t-tests comparing the means for NBCTs and non-NBCTs.

Table 3

Fixed Effects Model For Teacher Participation in Leadership Activities at the School- or District-Level

	School-level		District-level	
Variables	1	2	1	2
NBCT	1.083*	0.833*	0.731*	0.601*
	(0.160)	(0.158)	(0.099)	(0.099)
Masters degree or above	0.298*	0.199	0.183*	0.128
	(0.121)	(0.118)	(0.075)	(0.074)
Mother has bachelors degree or above	0.163	0.152	0.074	0.072
	(0.119)	(0.116)	(0.074)	(0.072)
Female	0.012	-0.029	-0.050	-0.064
	(0.222)	(0.215)	(0.137)	(0.134)
Total years teaching	0.001	0.005	0.003	0.005
	(0.006)	(0.006)	(0.004)	(0.004)
Not a classroom teacher	0.574*	0.496*	0.449*	0.398*
	(0.187)	(0.182)	(0.115)	(0.114)
Part-time teacher	0.317	0.538	-0.025	0.059
	(0.470)	(0.458)	(0.291)	(0.286)
Black	0.068	0.083	-0.144	-0.139
	(0.178)	(0.172)	(0.110)	(0.108)
Other racial/ethnic minority	-0.645	-0.607	0.076	0.107
	(0.445)	(0.432)	(0.275)	(0.270)
Inclination towards leadership		0.318*		0.190*
		(0.054)		(0.034)
Inclination towards leadership missing		-0.985*		-0.400*
		(0.146)		(0.091)
Intercept	1.889*	2.221*	0.543*	0.693*
	(0.342)	(0.334)	(0.212)	(0.209)
R-squared	0.162	0.215	0.104	0.141

Note: The models include dummy variables for each school. N=1224. Standard errors in parentheses.

* $p < .05$

Table 4

Percentage of NBCTs and Non-NBCTs Who Perceive a Moderate or Great Deal of Influence Over School-wide Policy and Average Perceived Influence

	NBCTs	Non-NBCTs
Establishing school-wide or departmental curriculum	52.3^	44.0
Determining the content of in-service professional development programs	47.7	45.2
Evaluating teachers	28.0^	17.6
Hiring new full-time teachers	29.9	23.3
Setting school-wide discipline policy	42.9	37.5
Allocating resources	39.3	32.5
Assigning students to classes	26.3	26.2
Assigning teachers to classes	6.9	10.2
	Mean	Mean
Perceived influence over school-wide policy	2.05	1.96
	(0.64)	(.66)

Note: N=1272 for perceived influence items and 1282 for inclination towards teacher leadership. The sample size for perceived influence is lower than 1282 due to item non-response.

^ $p < .05$. These p-values reflect chi-square tests indicating the distribution varies between NBCTs and non-NBCTs.

Table 5

Fixed Effects Model of Teachers' Perceived Influence Over School-wide Policy

Variables	1	2
NBCT	0.167*	0.051
	(0.08)	(0.08)
Masters degree or above	0.048	-0.001
	(0.06)	(0.06)
Mother has BA or above	0.071	0.068
	(0.06)	(0.06)
Female	-0.113	-0.122
	(0.11)	(0.11)
Total years teaching	0.002	0.004
	(0.00)	(0.00)
Black	0.118	0.126
	(0.09)	(0.09)
Other racial/ethnic minority	0.390	0.418
	(0.22)	(0.22)
Not a classroom teacher	0.454*	0.407*
	(0.09)	(0.09)
Part-time teacher	0.131	0.202
	(0.24)	(0.23)
Inclination towards leadership		0.169*
		(0.03)
Inclination towards leadership missing		-0.344*
		(0.07)
Intercept	-0.103	0.020
	(0.17)	(0.17)
N	1216	1216
R-sq	0.142	0.182

Note: The models include dummy variables for each school. Standard errors in parentheses.

* $p < .05$.

Appendix

Table A1

Items in the Teacher Leadership Activities Measures and Their Factor Loadings

Item	Factor loading
School-level leadership activities measure, α = .70	
Mentor other teachers	0.61
Serve as a team leader	0.56
Develop and/or select curriculum materials	0.46
Evaluate other teachers	0.51
Serve on teacher hiring committee	0.44
Provide professional development	0.50
Work with teacher preparation programs at colleges and universities	0.42
Advise on policies	0.16
District-level leadership activities measure, α =.65	
Mentor other teachers	0.54
Serve as a team leader	0.44
Develop and/or select curriculum materials	0.44
Evaluate other teachers	0.52
Serve on teacher hiring committee	0.40
Provide professional development	0.52
Work with teacher preparation programs at colleges and universities	0.34
Advise on policies	0.23

Note: Teachers were asked to identify any professional roles or activities in which they participated within the last five years. They indicated whether these activities were at the school, district, or state level. Teachers could participate in the same activity at multiple levels if applicable.

Table A2

Items in the Teacher Perceived Influence Over School-wide Policy Measure and Their Factor Loadings

Item	Factor loading
Establishing school-wide or departmental curriculum	0.57
Determining the content of in-service professional development programs	0.62
Evaluating teachers	0.62
Hiring new full-time teachers	0.70
Setting school-wide discipline policy	0.69
Allocating resources (e.g., curricular materials, computers, textbooks)	0.68
Assigning students to classes	0.59
Assigning teachers to classes	0.70

Note: The question stem to which teachers responded was, “Please circle the descriptor to indicate your influence over school-wide policy in your school in the following areas.” The scale of responses ranges from “No influence” (1) to “A great deal of influence” (4). Cronbach’s alpha = .85.

Table A3

Items in the Inclination Towards Teacher Leadership Measure and Their Factor Loadings

Item	Factor loading
My involvement in leadership activities makes me feel more significant in my profession	0.80
My involvement in leadership activities makes me feel like teaching has a lot to offer me	0.87
My involvement in leadership activities enhances my career satisfaction	0.83

Note: The question stem to which teachers responded was, “Please circle the descriptor to indicate your level of agreement with each statement about teacher leadership activities.” The scale of responses ranges from “Strongly disagree” (1) to “Strongly agree” (4). Teachers who did not participate in any teacher leadership activities may have responded with “Not applicable.” Cronbach’s alpha =.89.

Footnotes

[1] http://www.nbpts.org/userfiles/File/2009CertDayMaplo.pdf. Retrieved on March 9, 2010.

[2] http://www.nbpts.org/about/index.cfm. Retrieved on July 30, 2005.

[3] http://www.nbpts.org/resources/publications. Retrieved on April 6, 2010.

[4] This study also included a survey of all NBCTs in the sampled states. Although not shown here due to space considerations, comparisons between the statewide NBCT survey and the 2003-04 Schools and Staffing Survey (SASS) indicates that NBCT felt they had more influence over establishing curriculum, evaluating teachers, and hiring new full-time teachers, but less influence over setting school-wide discipline policy than non-NBCTs in the SASS sample. These differences are notable as Ingersoll's (2003) study finds no differences in teachers' perceived influence across many different categorizations including gender, subject or grades taught, and years of experience. That there is a teacher characteristic related to teachers' perceived influence is striking although the mixed results on discipline policy are perplexing. The apparent contradiction between the findings reported in this paper and that of the statewide survey of NBCTs may be explained if NBCTs are found in schools where teacher influence over school-wide decisions is higher than average, which is not surprising given that NBCTs are unevenly distributed across schools (Koppich et al., 2007).