

Relationship Between Teachers' Professional Efficacy Beliefs and Their Evaluation of a New Teacher Evaluation System

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In recent years, evidence from educational research has demonstrated that high quality of instruction can have a positive effect on student academic outcomes (Darling-Hammond, 2000; Deshler & Cornett, 2012; Sanders & Horn, 1998; Sanders & Rivers, 1996; Wenglinsky, 2000; Westbury, 1993). Accordingly, many federal and state-level policies have been introduced to warrant high standards of educational practices across the United States. Legislative provisions such as No Child Left Behind and Race to the Top provide a framework for improving public schools and ensuring quality of education for all students, but also serve as a backdrop for the increasingly important debate over teacher evaluation and what it should entail. While educational practitioners, policymakers and members of the public at-large have been advocating for increasing the rigor by which the quality of instruction in schools is assessed, educational researchers have been primarily occupied with conceiving and testing systems of teacher evaluation and debating the appropriate ways in which these may be used to provide feedback for improving ineffective teaching practices. As new systems of teacher evaluation are being implemented in school districts nationwide, it is critically important to represent and explore teachers' own perspective about their utility. The educational literature readily recognizes that teachers occupy a role of "purposive agents" in the implementation of instructional and organizational changes in school (see Darling-Hammond, Wise and Pease, 1983, p. 313) and

that buy-in from teachers is necessary for translating teacher evaluation into improved instructional practices that all students can benefit from (Briggs, 2013). Identifying and addressing teachers' concerns and/or misperceptions about teacher evaluation systems may improve the overall effectiveness of these assessment tools.

The current study explores perceptions of teacher evaluation systems and their relationship to efficacy belief among a large sample of teachers in New Jersey who participated in the pilot implementation of a new, statewide teacher evaluation program that will take full effect in the 2013-2014 school year. Specifically, the study examines the ways in which teachers' beliefs about their power to have an impact on their students is associated with their support (or lack of) of the new teacher evaluation system.

Literature Review

Research about teachers' response to organizational changes in schools has traditionally underscored teachers' tendency to resist change (e.g., Duffy & Roehler, 1986; Fullan, 1991). However, studies that examined the topic from the perspective of teachers' themselves were able to pinpoint a number of factors or circumstances, such as high levels of trust among the faculty (Tarter, Bliss, & Hoy, 1989), that can garner support for change from teachers. Perhaps the most robust finding is that teachers are most likely to support change when they have an active role in the process (Fullan & Stiegelbauer, 1991) and believe in their power to bring about change (Smylie & Conyers, 1991; Waugh & Punch, 1987). Indeed, studies that examined the relationships between schools' organizational health and teachers' sense of efficacy (e.g., Hoy & Woolfolk, 1993), as well as research on relationships between success of educational reforms and teachers' professional efficacy (see De Mesquita, & Drake, 1994) reported positive

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correlation between the two. However, such studies typically examined direct associations between these variables, and to the extent that the relationships among the variables is indirect (i.e., mediated by other variables), they may be missing an important insight that can be of value in addressing and mitigating teachers' personal concerns about and collective resistance to change.

Theoretically, there are reasons to expect that the relationship between teachers' professional efficacy and their response to change should be mediated by their judgments regarding that change. Efficacy is a central construct in Bandura's (1996) social cognitive theory. According to the theory, self-efficacy (or a person's belief in his or her ability to succeed in a particular situation) stands at the core of human motivation to enact a certain behavior. Self-efficacy increases the likelihood that a person will change his/her behavior directly but also indirectly, by shaping this person's behavioral expectancies (or the perceived likely consequences of performing the behavior) as well as the goals (both short and long term) that this person aspires to achieve. Importantly, self-efficacy and the extent to which it motivates action are primarily a function of a person's perceived level of control over the external environment that surrounds the behavior. People who see themselves as highly efficacious attribute failure to insufficient internal effort (dispositional attribution) whereas people who see themselves as inefficacious attribute failure to external factors that are beyond their personal control (situational attribution). Thus, when the sense of efficacy is low, people are likely to avoid engagement with activities in which they feel they do not have ability to cope with.

In this study we examine both the direct and indirect (or expectancies-mediated) effect of self-efficacy on teachers' evaluation of the likely impact of the new teacher evaluation system on their instructional practices. We hypothesize that professional efficacy among teachers (operationalized as the belief that they have little power to cause positive outcomes in their students) (Luis et al., 1996) will be positively associated with their evaluation of the extent to which the new teacher evaluation system, which assesses teacher effectiveness as a function of students' achievement, is effective. Because studies suggest that teachers' professional efficacy is related to

their professional experience such that more experienced teachers have higher sense of efficacy than their less experienced peers (Guskey, 1981; Palmer et al., 2005; Tschannen-Moran et al., 1998; Wolters & Daugherty, 2007), we test this hypothesis separately for tenured and non-tenured teachers.

Methods

The participants in this study are 2,760 preK-12 teachers from 25 public school districts across the state of New Jersey, who participated in year 2 of the New Jersey Department of Education's pilot-testing of the newly adopted teacher evaluation system in the 2012-2013 school year. The data used in this study come from a survey of teachers administered in all 25 pilot districts at the end of that school year. The teachers were surveyed through an online questionnaire, with questions addressing the participants' experiences and perceptions of the pilot implementation. The majority of respondents in the sample were females (77.6%) and most teachers surveyed had a Master's degree (54%, compared to 43% who had a Bachelor's degree). About 70% of the teachers in the sample had nine or more years of experience teaching and 84% of all teachers were tenured at the time of the survey.

Measures

For the purpose of testing the study hypotheses (see Figure 1 for a graphic representation), we created four scales: professional efficacy scale (the primary independent variable in all analyses), perceived fairness of the new teacher evaluation scale (hypothesized to be a mediator), perceived accuracy of the new teacher evaluation system scale (hypothesized to be an additional mediator), and self-reported change in the teacher's instructional practice (the dependent variable). In all cases, scales were created based on adding and averaging responses to individual survey items that were intended to measure each underlying construct and verified through a factor analysis procedure. Reliability of all scales was assessed with Cronbach's alpha and was satisfactory in all cases (.71 for the professional efficacy scale, .86 for the system accuracy scale, .90 for the system fairness scale, and .83 for the effect on instructional practice scale). The professional efficacy scale was created from responses (ranging from strongly disagree to

strongly agree) to five situational attributions statements (e.g., “Many of the students I teach are not capable of learning the material I am supposed to teach them”), with scores ranging from 1-5 ($M=3.4$, $SD=.84$). The perceived system accuracy scale was created from responses to four likert-scale items (e.g., “the new teacher evaluation protocol can be used to generate accurate assessments”), with scores ranging from 1-5 ($M=3.2$, $SD=.94$). The perceived system fairness scale was created from responses to four likert-scale items (e.g., “the feedback I have received from observers has helped me to improve the learning environment in my classroom”), with scores ranging from 1-5 ($M=3.1$, $SD=.89$). Finally, the perceived impact on instructional practice scale was created from responses to three likert-scale items (e.g., the teacher evaluation protocol for assessing teachers is fair”), with scores ranging from 1-5 ($M=2.5$, $SD=.44$). In addition, the following variables were included as statistical controls in all analyses: teacher’s gender, teacher’s years of experience, grade level (elementary, middle, or high), and school district.

Results

Since our hypotheses involve a mediation model, we estimated the model presented in Figure 1. The fit of the model was evaluated with M Plus 6.1 using a maximum likelihood algorithm. Prior to analysis, the data were evaluated for multivariate outliers by examining leverage indices for each individual and defining an outlier as a leverage score 4 times greater than the mean leverage. No outliers were detected. Model-based outliers were evaluated by calculating a standardized $dfBeta$ for each predictor in each linear equation. An outlier was defined as an absolute standardized $dfBeta$ larger than 1.0. No outliers were evident. Examination of univariate indices of skewness and kurtosis revealed no skewness above an absolute value of 0.35 and no kurtosis values above an absolute value of 0.48. A variety of indices of model fit were evaluated. The overall chi square test of model fit was not statistically significant (Chi-square (2) = 1.80, $p < 0.49$). The Root Mean Square Error of Approximation (RMSEA) was <0.001 . The p value for the test of close fit was 0.49. The Comparative Fit index was 1.00. The standardized root mean square residual was 0.023. Overall, the indices point towards good model fit.

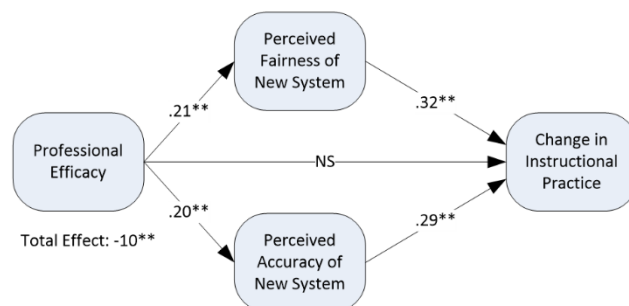


Figure 1. Hypothesized Mediation Model

Inspection of the residuals and modification indices revealed no significant points of ill-fit in the model.

Figure 1 presents the standardized path coefficients. As hypothesized, a teacher’s professional efficacy was positively associated with both the perceived fairness and accuracy of the new teacher evaluation system and both correlation coefficients were statistically significant. Since a slight majority of teachers in our sample reported lower professional efficacy to have a positive impact on students, the corresponding evaluations of the new system’s fairness and accuracy were also less favorable or at a minimum ambiguous about these aspects of the new system. The model in Figure 1 also suggests statistically significant paths from the both mediators (fairness and accuracy) to teachers’ self-reported change in instructional practice. Here too, the perception that the new system may not be completely fair or accurate, as it assesses teachers’ effectiveness based on a circumstance (their students’ achievement) that is not completely under their control, was associated with the tendency to report little impact of the new system on actual instructional practices. Contrary to our expectation, we did not find statistically significant differences in professional efficacy between tenured and non-tenured teachers in our sample, which eliminated the need to estimate two separate models.

Conclusion

Overall, the findings lend support to the hypothesized mediation model that was derived based on the rationale of social cognitive theory. Specifically, the findings suggest that teachers’ professional efficacy perceptions (or their perceived power with regard to the implementation of an organizational change, a new teacher evaluation

system, in this case) can influence their response (i.e., degree of rejection or support) to the program by shaping their expectancies regarding the attributes of the program. This, in turn, suggests that increasing teachers' level of professional efficacy with regard to the change implemented should be an important goal of the implementation process. As the literature reviewed here suggests, this could be accomplished by increasing teachers' active involvement with the design and implementation of the program. Additionally and importantly, our analysis did not support the existence of a direct path of effect from professional efficacy to instructional practice, as predicted by the theory. This underscores the importance of considering both direct and indirect pathways of effects when studying the relationship between teachers' professional efficacy and their response to organizational changes in school.

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