Mentoring and First-Year Teacher Supports: How Do Music Educators Measure Up?

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ABSTRACT

Professional development for early career educators was examined to determine potential differences in the quality of mentorship and school-provided supports for music and nonmusic disciplines. A nationally representative sample of early career educators (N = 6,134) drawn from the most current restricted-use Schools and Staffing Survey 2011–12 data was used to compare these engagements by discipline. Data were analyzed using ordinary least squares multiple regressions with state fixed effects to control for potential differences in educational policies. Results indicated that first-year music educators received significantly lower-quality mentorship and induction supports. Implications of this study include the need for school policy makers to strengthen the support provided to early career music educators such as offering partnerships with local music teacher mentors and music-specific induction programs.

INTRODUCTION

Mentorship programs and other early career professional development (PD) engagements or school-provided supports have been situated as critical components to retaining effective teachers and providing new educators with successful career trajectories (Hobson, Ashby, Malderez, & Tomlinson, 2009; Ingersoll & Smith, 2004; Luke, 2014). In some cases, these programs have been shown to influence teachers’ practices and student achievement in nonmusic disciplines (Ingersoll & Strong, 2011; Wallace, 2009). States and school districts have been steadily adopting mentoring and induction programs since 1993 (Wei, Darling-Hammond, Andree, Richardson, & Orphanos, 2009), and this growth is likely due to the potential for early career educator PD to ameliorate teacher attrition, a problem that can affect student achievement and the overall climate of a school environment (Ingersoll & Smith, 2004). Thus, much of the literature related to new teacher induction has included frameworks or advocacy points for what constitutes “high-quality” or “highly effective” early career PD and has targeted how these factors are mediated and moderated within specific contexts and with certain disciplines. Although a wealth of research in nonmusic disciplines exists on this topic,
little is known about the quality or quantity of early career supports for music educators in terms of large, generalizable studies.

**High-Quality Mentorship and Induction**

The conditions under which mentorship takes place determine the effectiveness of a program (Hobson et al., 2009; Ingersoll & Strong, 2011). Mentoring or induction programs that affect teachers’ instructional practices and their propensity for remaining in their schools have been defined as “high-quality” and typically include: (a) interactions that are discipline-specific and focused on improving practice; (b) observations of teaching by both the mentor and mentee; (c) regularly scheduled meeting time for mentorship; and (d) reduced teaching loads for new teachers (Hobson et al., 2009; Ingersoll & Smith, 2004; Luft, Roehrig, & Patterson, 2003; Polikoff, Desimone, Porter, & Hochenberg, 2015; Stanulis & Floden, 2009; Wei et al., 2009). Mentors who participate in training programs, have nurturing dispositions, and provide emotional support have also been linked to teacher retention and are considered important characteristics of high-quality mentors (Hobson et al., 2009). Figure 1 displays a model of these factors associated with effective or high-quality early career PD.

Although the quality of early career PD relies on several contextual factors, schools within states that adopt policies for new teacher support systems have been shown to provide more effective PD experiences (Polikoff et al., 2015). Currently, at least 30 states require some form of mentoring or induction for new educators; however, only three states have adopted policies for schools to provide longer term (2–3 years) mentorship or substantive funding for mentors to complete training programs (Goldrick, 2016; Wei et al., 2009). While the adoption of such policies is promising, there is evidence that educators of certain disciplines—primarily English as a second language and special education as well as those who work in schools with high minority and poverty populations—have less access to effective mentorship or induction programs (Goldrick, 2016; Wei et al., 2009). Educators in other specialized fields like music, then, might be facing similar barriers to participating in effective early career PD.

![Figure 1. Factors related to high quality early career educators support. (Derived from Carver & Feiman-Nemser, 2009; Goldrick, 2016; Ingersoll & Smith, 2004; Luft et al., 2003; Polikoff et al., 2015; Wei et al., 2009)](image-url)
Early Career Professional Learning for Music Educators

Mentorship and induction for novice music educators have been a popular focus in qualitative investigations to determine how these supports affect new teachers’ emotional well-being (Blair, 2008; Krueger, 1999; Stevanson, 2005), instructional practices (Montague, 2000; Schmidt, 2008; Schmidt & Canser, 2006), and ability to navigate logistical challenges such as classroom management and budgeting (Benson, 2008; Blair, 2008; Conway, 2003; Conway & Zerman, 2004). The largest barriers to effective mentorship for new music educators include the location and accessibility of mentors (i.e., not teaching in the same building; Montague, 2000), a lack of mentor expertise in music teaching (Conway, 2015b; Montague, 2000), and a lack of time provided for mentoring (Conway, 2015a). Further, induction programs may be generic to accommodate all new educators instead of focusing on the unique challenges of music education (Benson, 2008; Conway, 2012, 2015b). Novice music educators have indicated their preference for content-specific experiences—namely music conferences and workshops—citing these PD activities as more valuable than the “one-size-fits-all” beginning teacher induction programs provided by their districts (Conway, 2001, 2012).

It is difficult to draw strong conclusions about the effect of mentoring and induction programs on new music educators across the United States, particularly since there are no large-scale studies addressing the quality or quantity of new music educator professional learning opportunities and support. The major emphasis in qualitative research has focused on mentoring attributes, while induction programs as a whole are an emerging line of research. Moreover, analyses of large data sets such as the Schools and Staffing Survey (SASS), in which mentorship, induction, and support data are included, have mainly targeted mathematics, language arts, or science educators. The status of early career music educators’ school-provided support and PD systems has yet to be determined, although music educators’ PD activities have been examined in these data sets for their relationship to teacher turnover.

Teacher Attrition and Retention in the Schools and Staffing Survey Literature

A substantial portion of research related to mentoring and induction has illuminated the ways in which these early career PD activities are related to teacher retention in various disciplines (Hobson et al., 2009; Ingersoll & Smith, 2004; Luke, 2014; Smith & Ingersoll, 2004). For example, Ingersoll and Smith (2004) examined the effects of various mentoring and induction supports on teacher turnover using the SASS and corresponding Teacher Follow-Up Survey (TFS) data. Induction items included seminars, collaborative networks for beginning teachers, common planning time with educators of the same discipline, and regular communication with the principals. Mentoring variables included the presence or absence of a mentor, if the mentor taught the same subject area, and the extent to which the novice educator felt the mentor was helpful.
Induction and mentoring supports were strongly related to educators’ likelihood of retention in the field, but the strength of this association depended upon both the types and number of supports. The strongest factors associated with teacher retention were common planning time with educators of the same discipline and regularly scheduled collaborative meetings with teachers. The quantity of supports, regardless of type, was a strong predictor of educators’ retention rates. Nearly 50% of teachers who received at least four supports were less likely to move jobs or leave the field than those who did not receive any induction or mentoring supports. These findings were replicated in a similar study (Luczak, 2004), using the same SASS and TFS data. New teacher supports seem to work in combination and cumulatively to improve teacher retention.

Contrastingly, studies in music education have shown that mentorship and beginning teacher support have little effect on teacher turnover, although these studies do not include composite mentorship and induction variables (Baker, 2007; Gardner, 2006; Hancock, 2008, 2009; Killian & Baker, 2006). Specifically, Gardner (2006) and Hancock (2008, 2009) used SASS and TFS data to examine attrition, retention, and migration of music educators—both novice and experienced—across the United States. Younger, less-experienced, and less-educated music teachers were more likely to change schools or leave the profession, but PD itself was a weak predictor of teacher retention (Gardner, 2006). Hancock (2008) examined novice music teacher PD in the SASS using dichotomous variables to indicate the presence or absence of mentorship and induction programs as predictors for retention in the field. Neither of these variables were significant predictors of teacher attrition or retention, yet it is important to note that Hancock did not determine the combined effect of mentorship and induction variables.

While research findings indicate that mentoring and other induction supports may have positive effects on various aspects of early career educators’ professional lives, a looming question remains: Do music educators receive the same level of support as their nonmusic teacher counterparts? Since music is often considered a “lower-stakes” discipline because it is not systematically tested and is typically not tied to teacher accountability, music educators may receive lower-quality early career PD in comparison to novice educators in higher-stakes disciplines. There is some indication that certain policies and policy structures within schools and states are more predictive of high-quality PD for higher-stakes disciplines (mathematics) than lower-stakes disciplines (science; Phillips, Desimone, & Smith, 2011). Importantly, these studies investigate PD for all educators—both novice and experienced—and do not target only novice educators. Yet, if mathematics educators receive higher-quality PD than science educators when certain state policies are present, these same findings may also pertain to music educators and, more specifically, to those who are beginning their careers. Research on this topic is needed to make any inferences about the quality of early career PD for music educators in comparison to nonmusic educators, particularly disciplines that are considered “high stakes.”
STUDY PURPOSE AND QUESTIONS
The purpose of this study was to compare differences in mentorship quality and other school-provided supports for first-year U.S. music educators to teachers of other disciplines. The following research questions addressed these purposes: (a) Is the relationship between educators' quality of mentorship and teaching discipline stronger for higher-stakes disciplines than for music? (b) Does teaching discipline predict the quantity of first-year teacher supports provided by schools?

SAMPLE, VARIABLES, AND METHODS
Sample
Questions on the 2011–12 SASS targeted topics such as demographics, educators' satisfaction within their schools, school course offerings, administrator satisfaction, and school climate, among several other factors that paint a detailed picture of U.S. public and private schools (Aritomi & Coopersmith, 2009). Detailed sampling procedures for the 2011–12 SASS data can be accessed on the National Center for Education Statistics website by downloading the User's Manual for the 2011–12 Schools and Staffing Survey (Goldring, Taie, Rizzo, Colby, & Fraser, 2013, p. 5). All analyses conducted in this study were weighted by the SASS probability weights at the teacher level (labeled TFNLWGT in the data set), which account for the complex sampling design and yield statistics that are nationally representative.1 Weighted response rates were as follows: (a) public school teachers, 79.1%, and (b) private school teachers, 71.6%.

Mathematics, English language arts (ELA), and elementary classroom teachers defined as educators of “high-stakes” disciplines—subjects that are typically tested and tied to teacher accountability—served as the main comparison groups in the study. Biological and social science educators were included in the sample because although these disciplines are not always considered high stakes, they are required in most school curricula and are often tested. Substitute teachers and educators of disciplines that are highly specialized like special education and prekindergarten were excluded from the sample.

The sample in this study included educators who had 3 or less years of experience at the time they took the survey and were teaching in the same school in which they began their careers. Table 1 includes the unweighted and weighted sample used for this study.

Variables
Outcome variables. Similar SASS variables used in previous research (Ingersoll & Smith, 2004; Smith & Ingersoll, 2004) were employed in the current study but within a different statistical design. Instead of examining teacher attrition and retention as a dichotomous dependent variable, linear regression analyses were used to determine relationships among the quality of beginning teacher supports and teaching discipline. Two outcome
Table 1
Selected Subsample of 2011–12 SASS for First-Year Educators

<table>
<thead>
<tr>
<th>All educators/first-year</th>
<th>Unweighted sample</th>
<th>Weighted sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music</td>
<td>406</td>
<td>25,160</td>
</tr>
<tr>
<td>Elementary classroom</td>
<td>1,457</td>
<td>202,000</td>
</tr>
<tr>
<td>English language arts</td>
<td>1,207</td>
<td>72,430</td>
</tr>
<tr>
<td>Mathematics</td>
<td>1,297</td>
<td>69,490</td>
</tr>
<tr>
<td>Biological science</td>
<td>959</td>
<td>65,120</td>
</tr>
<tr>
<td>Social science</td>
<td>808</td>
<td>44,600</td>
</tr>
</tbody>
</table>

Note: Weighted estimates were calculated using the TFNLWGT for teachers provided in the SASS data.

variables—mentorship quality and beginning teacher supports—were examined for their relationships to various predictor variables. Data on mentorship included: (a) whether or not the educator worked with a mentor in the first year of teaching; (b) the frequency of time spent with the mentor; (c) if the mentor taught the same subject; (d) and whether or not the educator felt that the mentorship improved his or her teaching. First-year teacher supports included: (a) participation in an induction program during the first year; (b) reduced teaching schedules; (c) common planning time with other educators on issues of instruction; (d) seminars or classes; (e) extra classroom assistance; and (f) regular communication with administrators. All questions had corresponding dichotomous yes/no answers and were recoded (yes = 1, no = 0). Items were summed to create composite variables with the mentorship variable ranging from 0–4 and the first-year teacher induction supports ranging from 0–6 (see Table 2 for descriptive statistics by discipline).

Covariates. Covariates in this study were drawn from four different domains: (a) school-level demographic variables, (b) teacher demography, (c) full-time teaching status and level, and (d) school PD structure. These covariates are listed in the supplemental materials (Table A.1) found here: http://bcrme.press.illinois.edu/media/217/, with citations to previous research in which they were also included in statistical models. School-level demographic variables included locale (urban, suburban, town, or rural), the percentage of students receiving free or reduced lunch (poverty measure), the percentage of minority students within a school, student population size of the school, and school control—public or private. These variables represent common demographic traits used in analyses of large educational data sets, and school poverty and minority percentages have been cited as significant predictors of various outcomes related to U.S. educators’ PD quality (Desimone, Smith, & Phillips; 2007; Ingersoll & Smith, 2004; Luczak, 2004; Phillips et al., 2011).

Two teacher demographic traits were added—sex and race—since these variables have been used to describe teacher populations in previous SASS studies (Smith & Rowley, 2005; Wei et al., 2009). For the purposes of this study, race and ethnicity were categorized as “White” and “Non-White” due to the large imbalance of White educators
to all other races and ethnicities. Full-time teaching status and teaching level—elementary and secondary—have also shown moderate relationships to the amount of PD educators engage in and were added to the design (Desimone et al., 2007; Phillips et al., 2011; Smith & Rowley, 2005; Wei et al., 2009).

Theoretically, a school environment more conducive to effective PD, including scheduled time and events during the school year for professional learning, might also provide higher-quality early career professional supports. Similar to previous studies (Desimone et al., 2007; Phillips et al., 2011), the current study included a composite measure of PD school structure that encompassed seven different indicators such as substitute coverage for teachers, PD days built into the school schedule, and common planning time. Additionally, a Likert-type item in which principals were asked to rate the extent to which they consider PD a regular part of teachers’ work was added to the regression model.

**Methods**

*State fixed effects and cluster-robust standard errors.* The predictor variable of interest in the current study was teaching discipline—specifically comparing higher-stakes disciplines to music, a subject that is not a curricular requirement in most schools—to examine differences in early career educator support. In order to reduce the potential for omitted variable bias, the use of state fixed effects in the regression model to account for potential differences in state education policies that might affect school PD and multiple covariates drawn from different domains and applied in previous related studies were included in the design. Fixed effects is a regression technique used in large clustered data sets to reduce omitted variable bias by assigning each entity a dummy variable that absorbs the effects of particular entities or clusters (Stock & Watson, 2007). As indicated in a previous research study (Phillips et al., 2011), state education policies may be associated with higher-quality PD for educators of higher-stakes disciplines. Therefore, it was reasonable to account for fixed state characteristics that might affect school-provided professional support for early career educators. Adjusted standard errors robust to clustering were used throughout the statistical analysis to yield significance tests that were not biased because of intercluster correlation (Heeringa, West, & Berglund, 2010).

*Missing data.* There were many missing principal survey variables (\(N = 646\)). Data dummy variables were constructed to maintain the sample size (Cohen, Cohen, West, & Aiken, 2003) once principal survey variables were added to the regression. In order to ensure these estimates were not biased due to the missing data strategy, I also estimated the models without the dummies, resulting in a smaller sample size. The \(p\)-values were the same in both analyses, although the coefficients varied slightly.

*Theoretical equation.* The naïve regression Model 1 included only the teaching discipline as a predictor of mentorship quality or teacher-level supports. Covariates, both teacher and school related, were employed successively into the regression models in the following order: (a) Model 2, state fixed effect; (b) Model 3, teacher demography; (c)
Model 4, teacher level and employment status; and (d) Model 5, school PD structure variables. The theoretical equation for regression Model 5 was:

\[ Mentorquality_{ij} = \alpha_j + \beta_{Discipline_{ij}} + \beta_{2\ldots kCovariates} + \varepsilon_{ij} \]

where Mentorquality\(_{ij}\) was the composite mentorship “score” for the ith teacher in the jth state; \(\alpha_j\) was the state fixed effect; \(\beta_{Discipline_{ij}}\) was the dummy variable for the ith teacher in the jth state, where teaching discipline was set to one for teachers whose main assignment was the discipline and zero for teachers not in the discipline (e.g., 1 = music educators, 0 = all other educators); \(\beta_{2\ldots kCovariates}\) represented the school- and teacher-level demographic traits, teacher status and teaching level, and school PD structure variables; and \(\varepsilon_{ij}\) was the error term. The theoretical equation for early career teacher supports was modeled similarly:

\[ Earlycareersupports_{ij} = \alpha_j + \beta_{Discipline_{ij}} + \beta_{2\ldots kCovariates} + \varepsilon_{ij}. \]

**RESULTS**

**Descriptive Statistics**

Descriptive statistics for each variable’s mean or proportions (for categorical variables) were calculated using the probability weights. Covariates were described by their categories as follows: (a) school demography, (b) teacher demography, (c) teacher level and employment status, and (d) school PD variables.

**School demography.** Within the early career music educator population, cities had the least representation (19.73%) while rural (32.51%) and suburban (30.88%) areas had the highest number of music educators. Elementary classroom educators accounted for the majority of the early career educator population (43.04%) while music educators were least represented (5.35%). Most educators worked in public schools, although the percentage of music educators working in private schools (21.28%) was higher than any other discipline (13.00%–15.34%).

The average early career educator taught in a school where the percentage of minority students was 45.24% and the average number of students receiving free or reduced lunch was 43.99%. Early career music educators, however, worked in schools with both lower minority and poverty rates (37.36% and 33.34%, respectively).

**Teacher demography.** Female educators accounted for 77% of the early career educator population while males represented 23% of this population. The population within music teachers was more evenly split (females = 55.77%, males = 44.23%). The majority of educators identified as White (80.92%), where only 19.08% of early career educators were Non-White. Music educators had the highest gap in racial/ethnic diversity (White = 89.84%, Non-White = 10.16%).

**Teaching level and employment status.** Elementary-level educators comprised 50.85% of the population and secondary educators represented 49.15% of the population. Of
the music educators, approximately 58% worked at the secondary level and approximately 42% worked at the elementary level. Music educators had the highest percentage of part-time and itinerant educators (15.81% and 8.66%, respectively). The percentage of part-time educators in all other disciplines was below 5% and below 1% for itinerant educators.

**School PD support.** School principals’ reports of educator release time and other professional supports averaged 4.68 on scale ranging from 0–7 (see Table 4). Music educators worked in schools where PD supports were slightly higher than the group mean ($M = 4.77$), although the means for all disciplines were about the same. Principals in this sample seemed to agree that PD should be considered a regular part of teachers’ work ($M = 3.96$ out of a 4-point Likert-type item), and these averages were fairly consistent among all disciplines.

**Descriptive statistics for outcome variables.** The lowest percentage of educators who participated in a school or district induction program was music teachers (77.38%), and this proportion was slightly below the full sample estimate (79.34%). The proportion of music educators who received common planning time with other educators (21.35%) was well below the full sample (56.00%), and this was also the case for first-year seminars in which only 49.42% of music educators reported attending seminars, whereas 60.45% of the full sample reported this type of PD. However, music educators had the highest percentage of educators who received reduced teaching schedules (12.80% in comparison to 9.23% for all disciplines), and they also tended to receive more supportive communication from their principals (78.23%) in comparison to other disciplines (71.70%–75.06%).

Fewer music educators reported having a mentor (67.54%) than the full sample (70.57%), although this percentage was slightly higher than mathematics (66.51%) and social science educators (65.89%). Music educators reported fewer mentors who taught the same subject (33.67%), and this percentage was well below all other disciplines (46.30%–59.71%). Similarly, fewer music educators reported that the mentorship had improved their teaching (35.24%) than all other disciplines (41.55%–49.35%). Supplemental Tables A.2 and A.3 (http://bcrme.press.illinois.edu/media/217/) include percentages for each of the disaggregated mentorship and first-year support items by discipline.

On average, educators received a little over half of the mentorship supports ($M = 2.38$) on a scale ranging from 0–4. Music educators received less than this average ($M = 1.90$) while nonmusic educators engaged in higher levels of mentorship (see Table 2). Similarly, first-year teachers received an average of 3.02 induction-type supports from their schools, but music educators averaged fewer supports (see Table 2). The mentor quality variable had a skewness of −0.89 and a kurtosis of 3.22 while the first-year support variable had a skewness of −0.10 and a kurtosis of 2.45. While the mentor quality variable is moderately skewed and first-year support variable has thinner tails than a
normal distribution, Allison (1999) notes that the normality assumption for multiple regression analysis is less of a concern with larger sample sizes. Cronbach’s alpha was calculated in order to test the unidimensionality of the scales. The mentorship quality variable yielded an acceptable alpha (\( \alpha = .91 \)); the alpha for first-year teacher supports was low (\( \alpha = .52 \)). Since much of the literature on early career educator PD supports the notion of these experiences working in combination and in accumulation, I ran the analysis with the created scale as opposed to running separate nonlinear regressions on each item. However, this is a notable limitation and weakness in the study.

**Estimates of Early Career Educator Supports by Discipline**

Teaching discipline was the main predictor variable of interest and elementary classroom educators served as the reference group for each regression. Dummy variables for other covariates included the following comparison groups in the regression models: (a) school control = private, (b) locale = city, (c) teacher sex = male, (d) teacher race = non-White, (e) teaching level = elementary, and (f) teaching status = full time. Regression tables for each outcome variable—mentorship quality and early career educator supports—are identically formatted.

The columns display each regression model beginning with the naïve regression and progress to Model 5 with all covariates added. The bottom of each regression table displays a yes/no statement about the inclusion of the state fixed effect, the adjusted \( R^2 \), and the number of subjects analyzed (N). The coefficient beta (\( b \)) is listed for each

<table>
<thead>
<tr>
<th>Table 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Means for Mentorship Quality and First-Year Educator Supports</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teaching discipline</th>
<th>Means of mentorship quality</th>
<th>Means of induction-type support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full sample</td>
<td>2.38 (0.04)</td>
<td>3.02 (0.03)</td>
</tr>
<tr>
<td>Music</td>
<td>1.90 (0.12)</td>
<td>2.50 (0.10)</td>
</tr>
<tr>
<td>Elem.</td>
<td>2.60 (0.07)</td>
<td>3.19 (0.50)</td>
</tr>
<tr>
<td>ELA</td>
<td>2.42 (0.72)</td>
<td>3.04 (0.06)</td>
</tr>
<tr>
<td>Math</td>
<td>2.21 (0.74)</td>
<td>2.93 (0.06)</td>
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<tr>
<td>Bio. sci.</td>
<td>2.19 (0.82)</td>
<td>2.88 (0.07)</td>
</tr>
<tr>
<td>Soc. sci.</td>
<td>2.10 (0.93)</td>
<td>2.84 (0.08)</td>
</tr>
</tbody>
</table>

*Note: Linearized SE in parentheses. First-year supports comprise a scale of 0–6 items including release time for planning, reduced teaching loads, and support from experienced teachers and the principal. Mentor quality comprises a scale of 0–4 items. ELA = English language arts; Elem. = elementary classroom teachers*
variable with both the standard error in brackets and $p$-values listed below the standard errors. Following each regression, Wald tests were run to test the equality of music coefficients against all other disciplines (e.g., music and ELA, music and biological science, etc.). The $F$ statistics and $p$-values of these Wald tests are included for each regression and determine whether the coefficients are equal (no statistical significance) or unequal (statistically significant). The adjusted $R^2$ values in this study, though relatively small, are similar to other educational studies analyzing microdata and do not necessarily indicate a poor model fit (Allison, 1999; Stock & Watson, 2007).

Table 3 displays the regression coefficients for the first research question examining mentorship quality (teaching discipline coefficients only; full table can be found in Table A.4 at http://bcrme.press.illinois.edu/media/217/). The initial model illustrates that all educators except for ELA had a disadvantage in mentorship quality in comparison to elementary classroom teachers. The quality of first-year music educators’ mentorship was

### Table 3
Regression Coefficients for Mentorship Quality by Discipline

<table>
<thead>
<tr>
<th>Subject</th>
<th>(1) Initial model</th>
<th>(2) + state fixed effect &amp; school demography</th>
<th>(3) + teacher demography</th>
<th>(4) + teacher level and status</th>
<th>(5) + school PD structure</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>$b/SE/p$</td>
<td>$b/SE/p$</td>
<td>$b/SE/p$</td>
<td>$b/SE/p$</td>
<td>$b/SE/p$</td>
</tr>
<tr>
<td>Music</td>
<td>$-0.696^{***}$</td>
<td>$-0.807^{***}$</td>
<td>$-0.817^{***}$</td>
<td>$-0.707^{***}$</td>
<td>$-0.717^{***}$</td>
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<tr>
<td></td>
<td>[0.136]</td>
<td>[0.131]</td>
<td>[0.133]</td>
<td>[0.159]</td>
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<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>ELA</td>
<td>$-0.174$</td>
<td>$-0.309^{**}$</td>
<td>$-0.318^{***}$</td>
<td>$-0.153$</td>
<td>$-0.160$</td>
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<td>[0.098]</td>
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<td>[0.096]</td>
<td>[0.153]</td>
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<tr>
<td></td>
<td>0.078</td>
<td>0.001</td>
<td>0.318</td>
<td>0.295</td>
<td></td>
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<tr>
<td>Math</td>
<td>$-0.385^{***}$</td>
<td>$-0.500^{***}$</td>
<td>$-0.511^{***}$</td>
<td>$-0.335*$</td>
<td>$-0.342*$</td>
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<td></td>
<td>[0.100]</td>
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<td>[0.097]</td>
<td>[0.152]</td>
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<tr>
<td></td>
<td>0.000</td>
<td>0.000</td>
<td>0.027</td>
<td>0.024</td>
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<tr>
<td>Bio sci.</td>
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<td>$-0.559^{***}$</td>
<td>$-0.570^{***}$</td>
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<td>$-0.392^*$</td>
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<td>[0.105]</td>
<td>[0.101]</td>
<td>[0.104]</td>
<td>[0.155]</td>
<td>[0.156]</td>
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<tr>
<td></td>
<td>0.000</td>
<td>0.000</td>
<td>0.013</td>
<td>0.012</td>
<td></td>
</tr>
<tr>
<td>Soc. sci.</td>
<td>$-0.500^{***}$</td>
<td>$-0.631^{***}$</td>
<td>$-0.642^{***}$</td>
<td>$-0.458^*$</td>
<td>$-0.461^{**}$</td>
</tr>
<tr>
<td></td>
<td>[0.116]</td>
<td>[0.113]</td>
<td>[0.118]</td>
<td>[0.166]</td>
<td>[0.166]</td>
</tr>
<tr>
<td></td>
<td>0.000</td>
<td>0.000</td>
<td>0.006</td>
<td>0.006</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>State fixed effect</th>
<th>No</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>adj. $R^2$</td>
<td>0.017</td>
<td>0.105</td>
<td>0.105</td>
<td>0.106</td>
<td>0.106</td>
</tr>
<tr>
<td>$N$</td>
<td>6,134</td>
<td>6,134</td>
<td>6,134</td>
<td>6,134</td>
<td>6,134</td>
</tr>
</tbody>
</table>

Note: Observations weighted using the SASS teacher weights [TFNLIWGNT]. Model 5 includes missing data dummies for principals who did not respond to the survey. Elementary classroom teachers are the comparison group for the subject. Standard errors in brackets are robust to clustering at the school level. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$
less than elementary classroom teachers ($b = -0.696, SE = 0.136, p < .001$) in Model 1 and the coefficient was slightly larger in Model 5 ($b = -0.717, SE = 0.159, p < .001$). The other disciplines’ coefficients were slightly smaller in Model 5, and the size of the coefficients for all nonmusic disciplines were not as large as music educators across the models. When holding teaching level, full-time/part-time status, and school PD structure constant, the coefficients for teaching disciplines remained about the same. Post-estimation Wald tests revealed that coefficients for music and ELA ($F = 15.15, p < .001$), music and math ($F = 6.69, p < .01$), and music and biological sciences ($F = 4.99, p < .05$) were statistically significant. Music educators received significantly less mentorship support than these disciplines. From this model, it seems that music educators are disadvantaged in the quality of mentorship provided by schools in comparison to most other academic disciplines.

Table 4 displays the regression results for the second research question examining first-year teacher induction-type supports provided by schools (teaching discipline coefficients only; full table can be found in Table A.5 at http://bcrme.press.illinois.edu/media/217/). Similar to mentorship quality, all disciplines except for ELA had a significant disadvantage in the number of school-provided supports for new teachers

Table 4
Regression Coefficients for First-Year Teacher Supports by Discipline

<table>
<thead>
<tr>
<th>Subject</th>
<th>(1) Initial model</th>
<th>(2) + state fixed effect &amp; school demography</th>
<th>(3) + teacher demography</th>
<th>(4) + teacher level and status</th>
<th>(5) + school PD structure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b/SE/p$</td>
<td>$b/SE/p$</td>
<td>$b/SE/p$</td>
<td>$b/SE/p$</td>
<td>$b/SE/p$</td>
</tr>
<tr>
<td>Music</td>
<td>$-0.690^{***}$</td>
<td>$-0.680^{***}$</td>
<td>$-0.712^{***}$</td>
<td>$-0.612^{***}$</td>
<td>$-0.617^{***}$</td>
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<tr>
<td></td>
<td>[0.115]</td>
<td>[0.126]</td>
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<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>ELA</td>
<td>$-0.148$</td>
<td>$-0.240^{**}$</td>
<td>$-0.260^{***}$</td>
<td>$-0.120$</td>
<td>$-0.121$</td>
</tr>
<tr>
<td></td>
<td>[0.075]</td>
<td>[0.076]</td>
<td>[0.076]</td>
<td>[0.122]</td>
<td>[0.121]</td>
</tr>
<tr>
<td></td>
<td>0.050</td>
<td>0.002</td>
<td>0.001</td>
<td>0.327</td>
<td>0.317</td>
</tr>
<tr>
<td>Math</td>
<td>$-0.260^{**}$</td>
<td>$-0.349^{***}$</td>
<td>$-0.380^{***}$</td>
<td>$-0.229$</td>
<td>$-0.235^{*}$</td>
</tr>
<tr>
<td></td>
<td>[0.082]</td>
<td>[0.080]</td>
<td>[0.080]</td>
<td>[0.119]</td>
<td>[0.119]</td>
</tr>
<tr>
<td></td>
<td>0.002</td>
<td>0.000</td>
<td>0.000</td>
<td>0.055</td>
<td>0.047</td>
</tr>
<tr>
<td>Bio sci.</td>
<td>$-0.310^{***}$</td>
<td>$-0.436^{***}$</td>
<td>$-0.465^{***}$</td>
<td>$-0.309^{*}$</td>
<td>$-0.310^{*}$</td>
</tr>
<tr>
<td></td>
<td>[0.087]</td>
<td>[0.087]</td>
<td>[0.191]</td>
<td>[0.126]</td>
<td>[0.125]</td>
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<td>0.000</td>
<td>0.000</td>
<td>0.014</td>
<td>0.013</td>
</tr>
<tr>
<td>Soc. sci.</td>
<td>$-0.348^{***}$</td>
<td>$-0.470^{***}$</td>
<td>$-0.509^{***}$</td>
<td>$-0.351^{*}$</td>
<td>$-0.353^{*}$</td>
</tr>
<tr>
<td></td>
<td>[0.098]</td>
<td>[0.100]</td>
<td>[0.106]</td>
<td>[0.139]</td>
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<tr>
<td></td>
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<td>0.000</td>
<td>0.000</td>
<td>0.011</td>
<td>0.011</td>
</tr>
</tbody>
</table>

Note: Observations weighted using the SASS teacher weights (TFNLWGT). Model 5 includes missing data dummies for principals who did not respond to the survey. Elementary classroom teachers are the comparison group for the subject. Standard errors in brackets are robust to clustering at the school level. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$
when compared to elementary classroom educators. Specifically, Model 1 illustrates that music educators received significantly fewer supports than elementary classroom educators \( (b = -0.690, SE = 0.115, p < .001) \).

Although the coefficients were higher for mathematics, biological science, and social science, these disciplines were still significantly disadvantaged \( (b = -2.60, p < .01 \) for mathematics; \( b = -3.10, p < .001 \) for biological science; and \( b = -0.348, p < .001 \) for social sciences). The addition of covariates in Models 4 and 5 reduced the size of the negative coefficients, but as in the first model, most disciplines were still at a disadvantage in comparison to elementary classroom teachers. Postestimation Wald tests revealed that coefficients for music and ELA \( (F = 12.18, p < .001) \), music and math \( (F = 7.15, p < .01) \), and music and biological sciences \( (F = 4.51, p < .05) \) were statistically significant. Music educators received significantly fewer first-year teacher supports than other disciplines except for social sciences. From this model, it appears that educators of higher-stakes disciplines are stronger predictors for receiving first-year teacher supports than educators in lower-stakes disciplines such as music and social sciences.

It is logical to assume that the high number of part-time and itinerant music educators might be the contributing factor to lower mentorship quality, yet these variables were statistically nonsignificant. The covariates added to regression of beginning teacher supports and mentorship quality had little impact on any teaching discipline coefficients. Thus it would seem that elementary classroom educators have a significant advantage for first-year educator PD, both in mentorship quality and in other school-provided supports. The notion that high-stakes disciplines receive stronger mentorship and induction seems to hold true in this case.

**DISCUSSION AND CONCLUSIONS**

Studies in nonmusic disciplines suggest that strong novice teacher mentoring is related to student achievement (Ingersoll & Strong, 2011; Wallace, 2009) and supports teacher retention (Smith & Ingersoll, 2004; Wenglinsky, 2002). The findings from this research align somewhat with previous studies in that educators of specialized disciplines (in this case, music) received lower-quality mentorship and fewer induction supports (Goldrick, 2016; Wei et al., 2009), and these results were similar when comparing music teachers to most nonmusic teachers. Similarly, previous research indicated that educators working in schools with higher student minority and poverty populations were disadvantaged in the quality of mentorship and the number of induction supports (Goldrick, 2016; Wei et al., 2009), and these findings were consistent, although only mentorship quality was significantly lower for higher minority and poverty schools in the current study.

Despite the fact that the majority of music educators receive a mentor during their first year of teaching, the significantly lower mentorship quality in comparison to nonmusic educators could have negative consequences for music educators’
instructional effectiveness and their motivation to remain in the field. The lower rates of mentorship that new music teachers receive from educators in their discipline (about 24% less than the full sample) and the fact that only 53% of music educators report meeting with their mentor on a regular basis is troubling considering that mentorship from teachers in the same subject is a strong predictor of teacher retention (Ingersoll & Smith, 2004), and frequent mentorship is associated with higher-quality instruction (Polikoff et al., 2015). Moreover, new music teachers find their mentorship experiences to be less helpful than all other disciplines (approximately 13% less than the full sample), which may also exacerbate problems with instructional effectiveness and attrition from the field.

Since various induction supports have shown to help boost confidence, support classroom management skills, and provide educators time to develop organizational skills (Hobson et al., 2009), beginning music educators who receive significantly fewer supports than nonmusic educators may be at risk for burnout and anxiety. Interestingly, music had the highest percentage of educators who reported receiving reduced workloads in their first year of teaching, although this was only about 2% higher than the approximate 10% of educators in the full sample who reported a reduction in classes or related responsibilities. In contrast, about 35% fewer music educators report engaging in common planning time in comparison to the full sample, and this relative lack of time spent planning with other music educators may affect their decisions to remain in their schools or in the field, since collaborative planning has shown to be a strong predictor of teacher retention (Smith & Ingersoll, 2004).

Importantly, these results should be interpreted with caution. While there is a wealth of literature in nonmusic disciplines linking high-quality mentorship and induction to reducing attrition and improving instruction, none of the studies reviewed here include implications for the amount of time spent in these engagements needed to affect change, and few provide nuanced descriptions of the various “high-quality” indicators. For example, only one study in this review includes information about the instructional effectiveness of regularly scheduled meetings, suggesting that when these partnerships meet—during the day (instructional time) as opposed to outside of school hours—has a larger impact on new teachers’ practices (Polikoff et al., 2015). This study is limited in that there is no metric for determining how a coefficient of $b = -0.717$ ($SE = 0.159$, $p < .000$), for example, has any practical significance. Are music educators actually disadvantaged if they “score” .72 points lower on a mentorship quality scale?

More research about how these variables predict music teacher turnover and instructional effectiveness is needed to ascertain the practical significance of these findings. Studies in which SASS data were analyzed for all teaching disciplines indicated that the quantity of first-year teacher PD—both mentorship and induction supports combined—had a significant impact on teachers’ decisions to remain in their positions (Smith & Ingersoll, 2004; Wenglinsky, 2002). Future researchers might investigate how
the quantity of combined mentoring and induction supports predict attrition or retention for novice music educators.

This study supports the findings of several qualitative research studies in music education (Benson, 2008; Blair, 2008; Conway, 2001, 2003, 2012; Conway & Zerman, 2004) in that many music educators are likely isolated within their schools and may not receive the level of support congruent to what researchers suggest, nor do they receive as much beginning educator support as teachers in nonmusic disciplines. Unfortunately, these results are not surprising. Early career music educators have shown to favor PD opportunities such as workshops and conferences because their induction programs are generic and lack focus on the unique challenges and instructional nuances music educators face (Conway, 2001, 2012). Likewise, many music educators lack same-discipline music mentors because they may be the only music teacher—or the only full-time music teacher—working in their schools. Novice music educators who have music mentors may not work in the same building; therefore, they may not meet as often as educators who have mentors within the same building. If novice music educators have a mentor within the same building but the mentor is not a music educator, they are less likely to report that mentors are valuable.

The adoption of mentorship or induction policies by more than 30 states (Goldrick, 2016) shows a promising trend toward supporting and extending the instructional practices of new teachers and, consequently, improving the strength of school communities and students’ educational outcomes. The implementation of these policies, however, is mediated by the many contextual factors of schools and the personal characteristics of mentors, mentees, and induction program facilitators (Polikoff et al., 2015). Some researchers suggest that states develop evaluation measures for school districts’ programs that include items such as: (a) providing multiyear induction programs, (b) selecting mentors that are successful educators, (c) requiring mentor training, (d) scheduling time for all educators to collaborate in strong teacher communities within their schools, and (e) engaging mentors and new teachers in formative assessment practices that hold mentors accountable for providing useful feedback (Goldrick, 2016; Polikoff et al., 2015). State-level evaluations may hold school districts accountable for providing this type of high-quality induction, thus ensuring that implementation is more cohesive despite contextual differences among schools. Perhaps states may even offer financial incentives to schools that meet the expectations of high-quality PD for early career educators.

In terms of policy specific to music teachers, schools should, at the very least, provide beginning educators with music mentors—expert teachers who can provide specific feedback about instruction—and music-specific induction programs (Hobson et al., 2009). Induction programs that are designed to support music educators within a district may serve a more important role than out-of-district music workshops or conferences because participants can focus on the musical needs within the school or
community. Mentors should engage in training programs that enable them to support the emotional and psychological needs of beginning educators in tandem with providing instructional feedback (Hobson et al., 2009). Although meeting time during the day has been linked to stronger instructional practices (Polikoff et al., 2015), these planned meetings may cause more anxiety for music educators since they already have limited contact time with their students. Schools ought to consider paid mentoring programs outside of school hours for specialists like music educators so as not to disrupt their students’ limited instructional time (Conway & Holcomb, 2008).

Online mentorship and early career teacher communities, avenues that have emerged in recent research, could remedy the problem of finding common meeting and planning times and same-subject mentors for music educators. Reported benefits of these communities include ease of access to content, the sharing of multiple educator perspectives, reflective discussions through reading and rereading online posts in social network spaces, and the offering of emotional support from both novice and expert teachers (Bell-Robertson, 2014). While these communities offer promising motivational outlets for novice educators, instructional strategies and advice may not be as helpful in these venues due to the vast differences in school contexts and climates among participants (Bell-Robertson, 2014).

Partnerships, communities, and teams that are locally based may provide the most benefits for early career teachers. University partnerships with beginning teachers can have positive instructional outcomes and the potential for improving teacher retention (Conway & Jeffers, 2004; Schmidt & Canser, 2006). Grants that offer financial incentives to both local university faculty and beginning teachers may be helpful in establishing mentoring programs for recent music education alumni. Ideally programs would offer biweekly or monthly sessions for new teachers to collaborate in communities where their practice is shared via video, and they may navigate both instructional and logistical challenges with the support of colleagues and university faculty (Blair, 2008). University-sponsored partnerships also provide space for reciprocal mentoring (Schmidt, 2008). As beginning teachers collaborate in mentorship groups, they may also mentor preservice educators. Perhaps they can partner with students in practicum or methods courses, offering feedback on their microteaching experiences in the field. Mentoring teams in which a mentor teacher partners with both a first- and second-year teacher have also shown to support educators’ instructional goals in local contexts (Benson, 2008). Although there are few studies on reciprocal mentoring or mentoring teams, the ideas are promising especially since the problems early career educators face (e.g., fostering positive and collaborative classroom environments) are typically the same problems that preservice educators navigate. Discussing ways to overcome these challenges provide both preservice and beginning inservice educators with valuable strategies.

Beyond university support, beginning music educators need to learn how to advocate for high-quality mentorship such as having a music mentor who works within the
district or building (Conway, 2015b). If preservice educators enter the field without a music mentor, or any mentor for that matter, they must be able to articulate the need for a strong teacher network and support system. Moreover, they should have the skills and knowledge to recognize when a mentoring partnership is counterproductive; therefore, they must know how to diplomatically articulate their needs to an administrator (Conway, 2015b).

Haack and Smith (2000) note:

> Even as students graduate from teacher preparation programs, they must get on with the business of their own professional development. They must be convinced of its importance and begin immediately to seek out new growth experience and mentoring assistance as they enter the profession. (p. 24)

Teacher preparation programs serve to provide educators with initial success in the field. In many other fields, beginning professionals engage in mentorship programs that engender their motivation toward continued improvement and success and pave a pathway for excellence in their profession. Educators are not immune to these needs. In order to sustain K–12 music education programs, novice educators need high-quality support to create and sustain vibrant, comprehensive, and meaningful music experiences for their students.

**AUTHOR’S NOTE**

This study was a part of the researcher’s dissertation completed at Northwestern University (May 2015). This research was presented as a paper session entitled “Mentoring and First-Year Teacher Supports: How Do Music Educators Measure Up?” at the American Educational Research Association national conference in Washington, DC (April 2016).

**SUPPLEMENTAL MATERIAL**

Tables A.1–A.5 are available online at http://bcrme.press.illinois.edu/media/217/.

**NOTE**

1. A license to use these restricted-use data was obtained prior to any analysis. The Institute of Educational Sciences confirmed the compliance of terms related to participant privacy prior to the publication of this article.

**REFERENCES**


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