

Michigan Teachers Who Are Not Teaching: Who Are They, and What Would Motivate Them to Teach?

Appendix A. Methods

Appendix B. The Michigan Department of Education’s Survey of Teachers Who Do Not Teach

Appendix C. Detailed findings

See <https://go.usa.gov/xsuNj> for the full report.

Appendix A. Methods

This appendix includes detailed information about the data used in this study and describes the methods used in the analyses.

Data sources

A data-sharing agreement between the Regional Educational Laboratory Midwest and the Michigan Department of Education gave the study team access to the data needed to conduct the study (table A1).

Data used to address research question 1. For research question 1 the study team used information from two sources.

- Teacher demographic and certification data from the Michigan Online Educator Certification System between 1943 and 2019.
- Public school employment records, such as school and district assignment, from the Michigan Registry of Educational Personnel, between 2013/14 and 2017/18.

Data used to address research questions 2 and 3. For research questions 2 and 3 the study team used data from a survey administered by the Michigan Department of Education from December 5, 2019, to January 10, 2020, to certified teachers who did not have a teaching assignment in a Michigan public school during the 2017/18 school year.

Table A1. Data used to answer research questions

Teacher characteristic and data element	Years of data used in analysis	Source
<i>Research question 1. How many of Michigan’s certified teachers were not teaching in Michigan preK–12 public schools during the 2017/18 school year? What were their demographic, employment, and certification characteristics, and which demographic and employment characteristics distinguish them from teachers who were teaching?</i>		
Demographic characteristic		
Teacher gender	1943–2019	
Teacher race/ethnicity	1943–2019	
Teacher age	1943–2019	
Certification characteristic		
Certificate type (for example, standard, professional)	1943–2019	Administrative data from Michigan Online Educator Certification System
Certificate date	1943–2019	
Program type (elementary, secondary)	1943–2019	
Grade band of certificate (for example, K–8, 6–12)	1943–2019	
Endorsement area (for example, elementary, special education, math)	1943–2019	
Employment characteristic		
Employment status (dates of hire or termination, full-time equivalent)	2013/14–2017/18	Administrative data from Michigan’s Registry of Education Personnel
Type of position	2013/14–2017/18	
Place of assignment	2013/14–2017/18	
Grade band of assignment	2013/14–2017/18	
Subject of assignment	2013/14–2017/18	
<i>Research question 2: What reasons did certified teachers who were not teaching in 2017/18 give for leaving or choosing not to teach in preK–12 public schools? Did these reasons vary by demographic and employment characteristics?</i>		
Reasons for not entering or for leaving teaching in public schools		2019/20
Teacher characteristic		
Teaching experience	2019/20	Michigan Department of Education’s Survey of Teachers Who Do Not Teach
Child age 5 or younger at home	2019/20	
Household income	2019/20	
Current employment	2019/20	
Current residence	2019/20	
<i>Research question 3: What incentives did certified teachers who were not teaching in 2017/18 indicate would motivate them to return to or enter teaching in preK–12 public schools? Did the attractiveness of the incentives vary by teachers’ demographic and employment characteristics? Were some incentives more persuasive than others in influencing teachers to consider teaching?</i>		
Most important incentives for certified teachers to teach in a Michigan public school		2019/20
Openness to becoming a public school teacher in Michigan		
Teacher characteristic		
Teaching experience	2019/20	Michigan Department of Education’s Survey of Teachers Who Do Not Teach
Child age 5 or younger at home	2019/20	
Household income	2019/20	
Current employment	2019/20	
Current residence	2019/20	

Source: Authors’ compilation.

Instruments

Instruments for research question 1. No data collection instruments were developed for research question 1. The team used data that the Michigan Department of Education routinely collects for administrative purposes, including teacher certification and employment data.

Instruments for research questions 2 and 3. The Michigan Department of Education designed a survey for certified teachers who were not teaching in a Michigan public school in school year 2017/18. The survey contained 25 items in five sections (see appendix B for the survey instrument). The first section included screening items, such as current teaching status, teaching experience, and current residence. Respondents who indicated that they were not teaching at the time of survey administration and who resided in Michigan or within 20 miles of the Michigan border were eligible to complete the survey. Eligible respondents then completed the remaining four sections of the survey on reasons for not teaching; a comparison of current employment to teaching; incentives that would motivate them to teach in a Michigan public school; and demographic information, such as household income and any children age 5 or younger in the household. The Michigan Department of Education administered the survey online from December 5, 2019, to January 10, 2020.

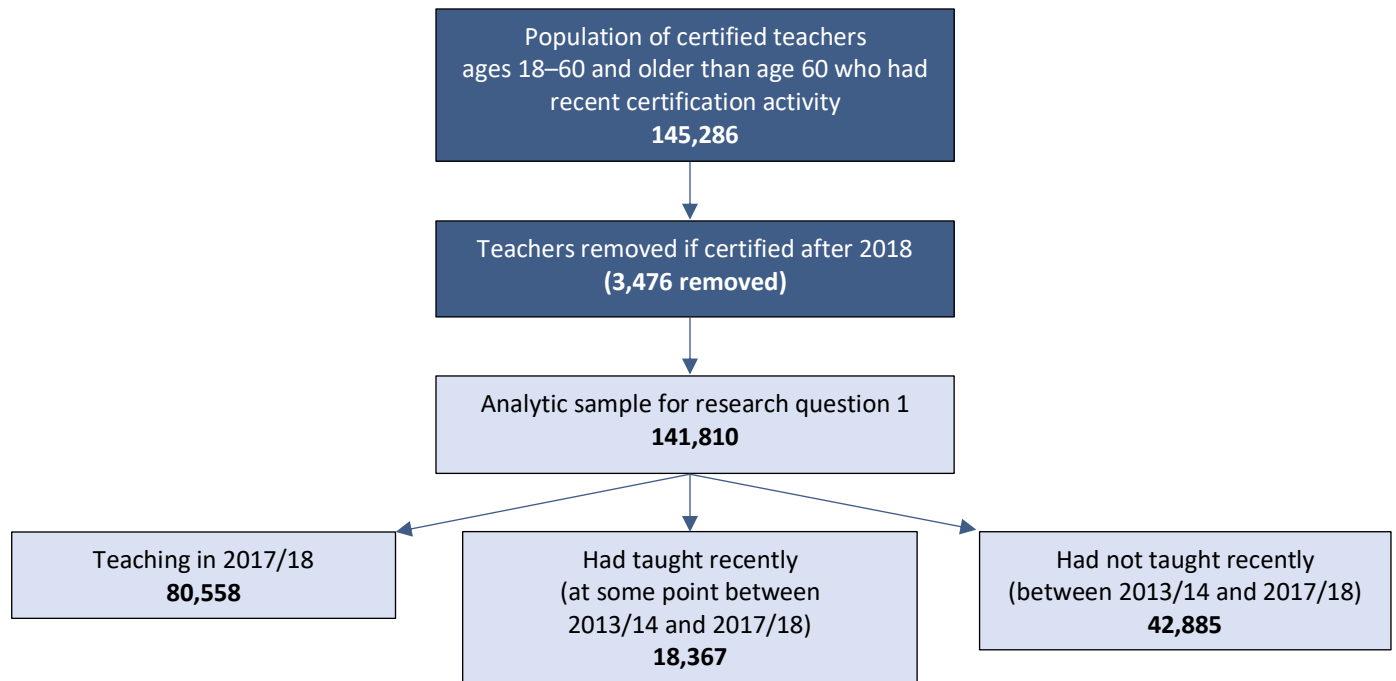
Study sample

The sample for research question 1 was drawn from administrative data provided by the Michigan Department of Education. The sample for research questions 2 and 3 drew on respondents to a survey that the Michigan Department of Education administered to certified teachers who did not have a teaching assignment in preK–12 public schools during the 2017/18 school year and who had a valid email address.

Sample for research question 1. The population of teachers for research question 1 included 145,286 certified teachers between the ages of 18 and 60 and those older than 60 who had recent certification activity, such as certificate renewal. The study team excluded 3,476 teachers who received an initial certificate after 2018 because their employment records were unavailable. Of the 141,810 teachers included in the analytic sample, the study team classified 80,558 teachers as teaching in 2017/18, 18,367 as having taught recently (between 2013/14 and 2016/17), and 42,885 as not having taught recently (between 2013/14 and 2017/18) based on the Michigan Department of Education’s employment records for 2013/14–2017/18 (figure A1).

Teachers were classified as teaching in 2017/18 if they had a teaching assignment in any Michigan public school during the 2017/18 school year. Teachers were classified as having taught recently if they had a teaching assignment in a Michigan public school between 2013/14 and 2016/17 but not in 2017/18. Teachers were classified as not having taught recently if they did not have a teaching assignment in a Michigan public school between 2013/14 and 2017/18. Because the Michigan Department of Education’s employment data were available only for 2013/14–2017/18, teachers classified as not having taught recently included teachers who had never taught in a Michigan public school after their initial certification because their employment status prior to 2013/14 could not be verified. This is a limitation of the study applicable to research question 1.

Figure A1. Procedure applied to derive the analytic sample for research question 1



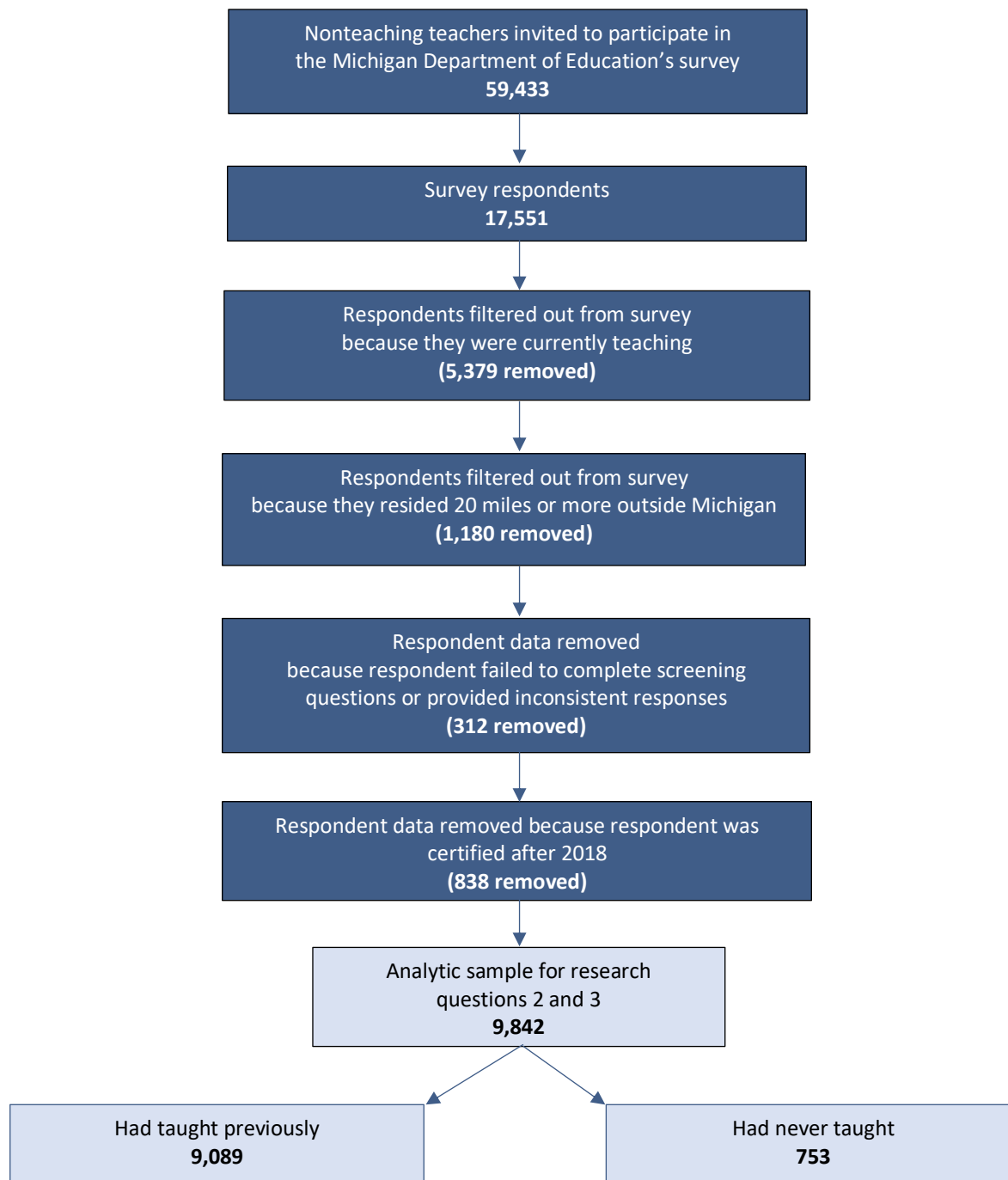
Source: Authors' compilation.

Sample for research questions 2 and 3. The sample for research questions 2 and 3 included respondents to a Michigan Department of Education survey administered between December 5, 2019, and January 10, 2020, to all 59,433 certified teachers who did not have a teaching assignment in a preK–12 public school during the 2017/18 school year and who had a valid email address (those whose certification record included an email address or those for whom email invitations to participate in the survey were not returned as undeliverable).

The initial sample for research questions 2 and 3 included 17,551 individuals who responded to the survey (30 percent response rate). The study team excluded from the analytic sample 838 respondents who were certified after 2018 because they likely had not had time to obtain a teaching position and therefore would have insufficient experience to offer insights about teaching in public schools. Additional respondents were excluded as a result of their responses to screening questions: 5,379 who indicated that they were currently teaching in a public or private school¹ and 1,180 who were not teaching but who resided 20 miles or more outside of Michigan. An additional 312 respondents were removed because they failed to complete the screening questions or because of data quality concerns (for example, some participants indicated that they had never taught in a Michigan public school, but the study team located their employment records). The final analytic sample for research questions 2 and 3 included 9,842 survey respondents. Of these, 9,089 self-identified as having previously taught and 753 self-identified as having never taught (figure A2).

¹ Because the employment data ended in 2017/18 and the survey was administered in 2019/20, some teachers who received the survey might have been employed in public schools. Thus, the study team screened for employment in public schools at the beginning of the survey.

Figure A2. Procedure applied to derive the analytic sample for research questions 2 and 3



Source: Authors' compilation.

Representativeness of sample for research questions 2 and 3. The final analytic sample for research questions 2 and 3 included 9,842 individuals who were not teaching in a Michigan preK–12 public school at the time the survey was administered (see figure A2). To examine the representativeness of the analytic sample, the study team compared the characteristics of the 9,842 survey respondents in the analytic sample with 61,252 nonteaching teachers in the Michigan Department of Education's administrative data ("had taught recently" and "had not taught recently" in figure A1). Compared with teachers in the Michigan Department of Education's data, 14.8 percent more survey respondents were initially certified before 2004, 14.5 percent more were age 35 or older, and 8 percent fewer were certified between 2010 and 2018. The remaining differences were within 5 percentage points. The study team and representatives from the Michigan Department of Education decided to concentrate

on differences of 5 percentage points or more as such differences represent a meaningful difference to Michigan stakeholders.

The study team also examined differences between nonteaching teachers in the analytic sample and the Michigan Department of Education data on nonteaching teachers using chi-square tests. Differences with standardized residuals exceeding 2.0 standard deviations were considered to show greater than expected discrepancy (Agresti, 2013; Sharpe, 2015). Results of this analysis suggest that the survey’s analytic sample overrepresents teachers who were age 35 or older, whose certification was for the secondary grade band, who were initially certified in 2009 or earlier, and whose last certification activity was before 2001. The analytic sample underrepresents individuals who have not taught recently, who were from a racial/ethnic minority group,² who were younger than age 35, whose certification was for the elementary grade band, who were initially certified between 2010 and 2018, and whose last certification activity was in 2001 or later (table A2). The results suggest that the survey respondents included in the analytic sample are not representative of similar nonteaching Michigan teachers, which is a limitation of this study for research questions 2 and 3. The analytic approach section below includes a discussion of how the study team addressed the representativeness of survey sample in the analysis.

Table A2. Comparison of characteristics between nonteaching teachers in the Michigan Department of Education administrative data and in the survey analytic sample

Characteristic	Nonteaching teachers in Michigan Department of Education data		Survey sample of nonteaching teachers		Percentage point difference	Chi-squared standardized residuals 2 standard deviations or greater
	Number	Percent	Number	Percent		
Gender						
Female	46,462	75.9	7,443	75.6	-0.3	
Male	14,790	24.1	2,399	24.4	0.3	
Race/ethnicity						
From a racial/ethnic minority group	6,651	10.8	893	9.0	-1.1	Yes
Not from a racial/ethnic minority group	54,601	89.1	8,949	90.9	1.8	Yes
Age						
Younger than age 35	19,330	31.6	1,684	17.1	-14.5	Yes
Age 35 or older	41,922	68.4	8,158	82.9	14.5	Yes
Grade band of certification						
Elementary	34,671	56.6	5,381	54.7	-1.1	Yes
Secondary	26,072	42.6	4,333	44.0	1.4	Yes
Missing	509	0.8	128	1.3	0.5	
Year of initial certification						
2004 and before	28,020	45.8	5,964	60.6	14.8	Yes
2005–09	11,424	18.7	2,008	20.4	1.7	Yes
2010–14	13,949	22.8	1,422	14.5	-8.3	Yes
2015–18	7,859	12.8	448	4.6	-8.2	Yes
Year of most recent certification activity^a						
2000 and prior	3,251	5.3	854	8.7	3.4	Yes
2001–18	58,001	94.7	8,988	91.3	-3.4	Yes

Note: The percentages are column percentages for each category and might not sum to 100 because of rounding.

a. Refers to obtaining initial certification, renewing a certificate, or adding endorsement areas to an existing certificate. Data include only completed activities.

² The study team grouped teachers who were of American Indian/Alaskan Native, Asian, Black, Hawaiian Native and other Pacific Islander, multiracial, and Hispanic ethnicity into a single category, labeled “Members of a racial/ethnic minority group.” This grouping is aligned with the Michigan Department of Education’s current practice.

Additional sample characteristics for research questions 2 and 3. Survey respondents provided information in the survey about characteristics that were not collected in the Michigan Department of Education data, such as their household income and the presence of a child age 5 or younger at home. A majority of survey respondents included in the analytic sample had taught previously ($n = 9,089$; 92.4 percent), did not have a child age 5 or younger at home ($n = 6,221$; 75.7 percent), did not work in a school or district in a nonteaching capacity ($n = 6,441$; 65.4 percent), were certified to teach elementary grades ($n = 5,381$; 54.7 percent), and had a household income of \$50,000 or more ($n = 7,819$; 87.0 percent; table A3).

Table A3. Characteristics of survey respondents included in the analytic sample

Characteristic	Number	Percent
Previously taught		
Yes	9,089	92.4
No	753	7.6
Has a child age 5 or younger at home		
Yes	2,001	24.3
No	6,221	75.7
Working in a school or district in nonteaching capacity		
Yes	3,401	34.6
No	6,441	65.4
Certification grade band		
Elementary grades	5,381	54.7
Secondary grades	4,461	45.3
Household income		
\$50,000 or more	7,819	87.0
Less than \$50,000	1,164	13.0

Source: Authors' calculations based on the Michigan Department of Education's survey of teachers who are not teaching, administered between December 2019 and January 2020.

Analytic approach

The study team used descriptive analysis and regression models to address the research questions.

Analytic approach for research question 1. For research question 1 the study team examined differences among teachers who were teaching in 2017/18, teachers who had taught recently, and teachers who had not taught recently on characteristics for which data were available in the Michigan Department of Education's administrative dataset. These characteristics included gender, race/ethnicity, age, and grade band of certification (elementary or secondary). The analysis first compared percentages of teachers with these characteristics among teachers who had or had not taught recently with teachers who were teaching in 2017/18. These comparisons were descriptive, aimed at identifying the proportion of teachers with different characteristics across groups. Next, multinomial regression was used to examine the characteristics that were statistically significant predictors of membership in the groups of teachers who had taught recently or had not taught recently compared with the group of teachers who were teaching in 2017/18. The regression models controlled for the year of initial teaching certification and the year of last certification activity.

Analytic approach for research questions 2 and 3. For research questions 2 and 3 the analysis focused on the three reasons that participants selected as the most important for not teaching from among 43 response options and the three most important incentives that they indicated would motivate them to teach in a Michigan public school from among 23 response options.

For both questions respondents could write in their own reasons or incentives. For the most important reasons for not teaching, 4,351 survey respondents provided their own answer, and for incentives to teach, 1,567

respondents provided their own answer. The study team first analyzed the answers to these open-ended questions by drawing a random sample of 200 respondents for each item, stratified on had previously taught and had not previously taught. From this analysis the study team identified 10 unique themes among reasons for not teaching and 7 unique themes among incentives (that is, themes that were not already represented among the multiple-choice response options). The study team then coded all responses for these unique themes, which were included in the subsequent analyses. Coders agreed on 97 percent of responses to open-ended questions. Disagreements were resolved in conference.

As a first step in the analysis, the study team used the three most important reasons and the three most important incentives that participants selected. The study team used frequencies and percentages to identify the reasons and incentives that respondents most often selected as most important. Next, for each of the 10 most frequently chosen most important reasons and 10 most frequently chosen most important incentives, the study team performed a logistic regression that examined the association between whether respondents chose the reason (or incentive) and respondents' characteristics, including teaching experience (had taught or had not taught in public schools), race/ethnicity, presence of a child age 5 or younger at home, current occupation (working in a school or district in a nonteaching capacity or not), and certification grade band (elementary or secondary school). For incentives the study team also examined the association between whether the respondents chose each of the 10 most frequently chosen important incentives and their openness to becoming a public school teacher in Michigan.

The analysis controlled for respondents' gender and household income. The analysis also included as predictors or control variables all characteristics with greater than expected discrepancy between the survey respondents included in the analytic sample and similar nonteaching Michigan teachers, to help account for the nonresponse bias (for example, age and the year of initial certification). This is analogous to using weights to adjust for nonresponse that would have been based on the same characteristics (Winship & Radbill, 1994; Young & Johnson, 2012). The study team chose this approach because it simplifies the interpretability of regression findings and because the study goal was not to generate population estimates but to understand the associations between the respondents' characteristics and their responses after other potential differences were accounted for.

The study team explored using weights in the descriptive analysis of the survey findings to account for nonresponse bias. The main challenge was accounting for the nonresponse bias associated with respondents who had previously taught and those who had never taught. The team could not identify the proportion of these individuals among the population of Michigan's certified teachers because school employment data were not available before 2013/14. As a workaround, the study team identified a proportion of certified teachers who had never taught since becoming certified in 2013/14. Based on this group, responses from 753 survey respondents who self-identified as never having taught would have to be upweighted by a factor of 8 to be representative.³ Because finding teaching positions in Michigan had become easier since 2004 as the supply of new teachers declined (McKee, 2011; Shawgo, 2010; Stackhouse, 2017), it is likely that the representativeness of survey respondents who have never taught would have been lower if the rate could have been calculated using all employment records. Therefore, the team decided against using weights in descriptive analyses as they could introduce considerable bias.

References

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³ The study team explored the use of weights in the analysis by applying a factor of 8. This approach showed comparable results to the unweighted findings, with the majority of differences less than 0.05, or 5 percent for the variables of interest.

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Appendix B. The Michigan Department of Education’s Survey of Teachers Who Do Not Teach

I TEACHING STATUS

Q1a Do you CURRENTLY TEACH any regularly scheduled class(es) in any of grades PK–12 in a public or private school?

(Regularly scheduled classes are those taught at least once per week for a full term.)

If you teach a particular specialty either within or outside of a regular classroom (e.g., you are a special education teacher, an English as a Second Language teacher, or a reading specialist teaching reading), please answer “yes.”

If you work in some other capacity at the school (e.g., principal, paraprofessional, or school counselor) and occasionally teach a single lesson or unit of instruction, please answer “no.”

- 1 Yes → **Go to Q1b**
- 2 No → **Go to Q3**

Q1b Are you residing in Michigan or within 20 miles of Michigan?

- 1 Yes → **Go to Q2**
- 2 No → **End the survey**

Q2 How do you classify your position at your CURRENT school(s), that is, the activity at which you spend most of your time during this school year?

- 1 Regular full-time or part-time teacher (in any grades PK–12 or comparable ungraded levels in a **public** school)
- 2 Regular full-time or part-time teacher (in any grades PK–12 or comparable ungraded levels in a **private** school)
- 3 Itinerant teacher (i.e., your assignment requires you to provide instruction at more than one school)
- 4 Long-term substitute (i.e., your assignment requires that you fill the role of a regular teacher on a long-term basis, but you are still considered a substitute)
- 5 Short-term substitute
- 6 Student teacher
- 7 Teacher aide
- 8 School or district administrator (e.g., principal, assistant principal, director, school head)
- 9 Library media specialist or librarian
- 10 Other professional staff (e.g., counselor, curriculum coordinator, social worker)
- 11 Support staff (e.g., secretary)
- 12 Prefer not to answer

*[If Q2 was displayed, then **End the survey**]*

Q3 What is your current MAIN employment or other occupational status?

- 1 Working for a **public** PK–12 school or school district in Michigan, but not as a teacher
- 2 Working for a **private** PK–12 school or school district in Michigan, but not as a teacher
- 3 Working in the field of PK–12 education but not in a school or school district
- 4 Working in the field of postsecondary education
- 5 Working outside the field of education (PK–12 and postsecondary), including military service and corporate training
- 6 Student at a college or university
- 7 On temporary leave from teaching (e.g., maternity or paternity leave, disability leave, sabbatical)
- 8 Caring for family members
- 9 Retired
- 10 Disabled
- 11 Unemployed
- 12 Other, please specify: _____
- 13 Prefer not to answer

Q4 Have you ever taught any classes in grades PK–12?

- 1 Yes → **Go to Q5**
- 2 No → **Go to Q9**

Q5 Think about the last time you taught. What type(s) of school did you LAST teach at?

- 1 Public, non-charter school
- 2 Public, charter school
- 3 Private school
- 4 Both public (charter and non-charter) and private school
- 5 I did not work as a teacher in the last school
- 6 I have never taught. → **Go to Q9**
- 7 Other, *please specify*: _____
- 8 Prefer not to answer

Q6 How would you classify your position at the LAST school where you taught, that is, the activity at which you spent most of your time during the LAST school where you taught?

If you held positions at more than one school during the last time you taught, think about the position that occupied most of your time; or if you spent equal time on positions, think about any of the positions you held in your last school.

- 1 Regular full-time or part-time teacher (in any grades PK–12 or comparable ungraded levels in a **public** school)
- 2 Regular full-time or part-time teacher (in any grades PK–12 or comparable ungraded levels in a **private** school)
- 3 Itinerant teacher (i.e., your assignment requires you to provide instruction at more than one school)
- 4 Long-term substitute (i.e., your assignment requires that you fill the role of a regular teacher on a long-term basis, but you are still considered a substitute)
- 5 Short-term substitute
- 6 Student teacher
- 7 Teacher aide
- 8 School or district administrator (e.g., principal, assistant principal, director, school head)
- 9 Library media specialist or librarian
- 10 Other professional staff (e.g., counselor, curriculum coordinator, social worker)
- 11 Support staff (e.g., secretary)
- 12 Prefer not to answer

[If Q3 = 7,8,9,10,11,12, skip to Q11; if Q4 = No, or Q5 = I have never taught, skip to Q9; Else, continue]

II INFORMATION ON LEAVING OR NOT ENTERING THE TEACHING PROFESSION

Q7 Did you leave your PK–12 teaching position voluntarily or involuntarily (e.g., contract not renewed, laid off, school closed or merged)?

- 1 I left PK–12 position **voluntarily**. → Go to Q9
- 2 I left PK–12 position **involuntarily**. → Go to Q8

Q8 Which of the following best describes why you involuntarily left your PK–12 teaching position?

- 1 The contract was not renewed.
- 2 I was laid off by the school or district.
- 3 The school was closed or merged.
- 4 I did not meet Highly Qualified Teacher (HQT) requirements
- 5 Other, Specify _____
- 6 Prefer not to answer

[If Q8 was displayed, go to Q11]

People choose to stop teaching [(if Q4 = No or Q5 = I have never taught) not to teach after getting their certificates] for many reasons.

Please select “Applies to me” next to any/all the reason(s) that apply to you.

Q9a Personal reasons

	Applies to me
<p>Needed a job more conveniently located (e.g., closer to my house, closer to childcare center).</p> <p>Needed to take care of my health.</p> <p>Needed to provide childcare for my child or children.</p> <p>Needed to provide care for family member(s) (other than my child or children).</p> <p>Decided to take courses to improve career opportunities WITHIN the field of education.</p> <p>Decided to take courses to improve career opportunities OUTSIDE the field of education.</p> <p>I was recalled to active military service.</p> <p>Spouse or partner job relocation.</p> <p>Other, please specify: _____</p>	

Q9b Employment factors

	Applies to me
<p>I wanted a higher salary than I could get teaching.</p> <p>I did not want compensation to be tied to student performance.</p> <p>I wanted better on-the-job benefits than I could get teaching (e.g., vacation time, health insurance).</p> <p>I wanted better retirement benefits than I could get teaching.</p> <p>I wanted a more flexible schedule than I could get teaching.</p> <p>I wanted a better job security than I could get teaching.</p> <p>I wanted better career growth opportunities than I could get teaching.</p> <p>I couldn't get a full-time position.</p> <p>I couldn't get a part-time position.</p> <p>Other, please specify: _____</p>	

Q9c Aspects of teaching I found particularly difficult

	Applies to me
Handling a range of classroom management or discipline situations. Using a variety of instructional methods. Teaching my subject matter. Using computers in classroom instruction. Using formative assessment. Using summative assessment. Using data from assessments to inform instruction. Differentiating instruction. Teaching students with special needs. Meeting state content standards Other, please specify: _____	

[If Q4 = No, or Q5 = I have never taught, skip to Q10]

Q9d Classroom characteristics

Please focus on your experience at your last school.

	Applies to me
My classroom assignments didn't match my certificate endorsement(s). I did not have enough autonomy over my classroom(s). Class sizes were too large. I had limited classroom resources for teaching (e.g., books, technology, supplies). I spent too much instructional time for test preparation. I spent too much time on paperwork and other duties unrelated to instructing students. I did not have a good relationship with my students. I did not have a good way of communicating with families of my students. Other, please specify: _____	

Q9e Working conditions

Please focus on your experience at your last school.

	Applies to me
I did not have influence over school-level decisions. Access to professional development for new teachers was inadequate (e.g., mentorship for new teachers). Access to professional development for experienced teachers was inadequate. Quality of professional development was inadequate. Teacher collaboration was inadequate. School leadership support was inadequate. I had too many duties outside of teaching (e.g., recess duty, lunch duty). I was dissatisfied with the school building and maintenance (e.g., issues with heat/cold, cleanliness, structure) Other, please specify: _____	

Among all the reasons you chose, which ones do you consider the most important in your decision to leave the position [(If Q4=No or Q5 = I have never taught) not to enter the position] of a PK–12 teacher?

[Display the reasons that respondents selected “Yes”]

1	_____
2	_____
3	_____

[If Q4 = No or Q5 = I have never taught, skip to Q15; Else, continue]

III YOUR IMPRESSIONS OF TEACHING AND OF YOUR CURRENT JOB

Q11 You mentioned that you have taught at least one grade PK–12 in a Michigan school. Please answer the following questions based on your last teaching experience in a Michigan school.

Excluding time spent on medical leave, maternal/paternal leaves or sabbatical, how many school years did you work as a full- and/or part-time PK–12 teacher in Michigan?

Do NOT include time spent as a student teacher.

Full-time teacher is defined by 24 or more hours per week assigned as a teacher.

Part-time teacher is defined by less than 24 hours per week assigned as a teacher.

Please round up the number to the nearest whole number if you only taught a portion of a year.

_____	Number of years as a <u>full-time</u> teacher
_____	Number of years as a <u>part-time</u> teacher

Q12 When did you leave your last Michigan PK–12 teaching position?

- 1 Less than 1 year ago
- 2 1 – 3 years ago
- 3 4 – 5 years ago
- 4 6 – 10 years ago
- 5 More than 10 years ago

[If Q3 = 6-12, skip to Q15; otherwise, continue]

Q13 How would you rate your current position compared to a Michigan PK–12 teacher in terms of each of the following aspects?

[Display Q14 as checklist]

	Better in teaching	About the same	Better in current position
Opportunities for professional development			
Opportunities for learning from colleagues			
Social relationships with colleagues			
Recognition and support from administrators/managers			
Safety of environment			
Influence over workplace policies and practices			
Autonomy or control over your own work			
Professional prestige			
Procedures for performance evaluation			
Manageability of workload			
Ability to balance personal life and work			
Availability of resources and materials/equipment for doing your job			
General work conditions			
Job security			
Intellectual challenge			
Sense of personal accomplishment			
Opportunities to make a difference in the lives of others			
Schedule flexibility			
Salary			
Benefit			
Other, please specify: _____			

Q14 Thinking about all the factors that influence your job satisfaction, overall, how satisfied are you with your current position compared to the position of a Michigan PK–12 teacher?

- 1 More satisfied in teaching
- 2 More satisfied in current position
- 3 No difference

IV EDUCATION ACTIVITIES AND FUTURE PLANS

Q15 Would you consider returning to the position [(if Q4 = No or Q5 = I have never taught) starting a position] of a PK–12 teacher in Michigan?

- 1 Yes → Go to Q16
- 2 No → Go to Q19

Q16 How certain are you to return to [(if Q4 = No or Q5 = I have never taught) start] teaching in Michigan on a scale of 1 to 10 with 1 being the least certain and 10 being the most certain?

0 1 2 3 4 5 6 7 8 9 10

Q17 How soon might you return to the position [(if Q4 = No or Q5 = I have never taught) starting a position] of a PK–12 teacher in Michigan?

- 1 Later this school year (2019-20)
- 2 Next school year (2020-21)
- 3 Within 5 years school year (2021-26) or later
- 4 Undecided

Q18 At what level(s) would you like to teach?

- 1 PK
- 2 K to 2nd grade
- 3 3rd to 5th grade
- 4 6th to 8th grade
- 5 9th to 12th grade
- 6 Across grades (applies to teachers who usually teach multiple grades, for example, special education or music.)

Q19 Which of the following factors could persuade you to return to the position [(if Q4 = No or Q5 = I have never taught) starting a position] of a PK–12 teacher in Michigan schools? [Displayed as a checklist]
 Please select “Applies to me” next to any/all the factor(s) that apply to you.

	Applies to me
Ability to maintain your teacher retirement benefits [<i>access teacher benefits if Q4 = No</i>] State certification reciprocity (a state’s acceptance of teacher certifications from other states) An easier way to renew or earn certification A less costly way to renew or earn certification. Smaller class sizes or smaller student load Availability of full-time teaching positions Availability of part-time teaching positions Forgiveness of your student loans Housing incentives (e.g., subsidies, rent assistance, low interest loans, relocation assistance) An increase in salary An improvement in benefits (including insurance and retirement plans) Availability of suitable childcare options like subsidies and access to childcare Availability of teaching positions in desired grade-level(s) Availability of teaching positions in desired subject(s) Availability of mentoring support for new teachers Flexibility on curriculum choices and/or instructional methods High quality professional development opportunities Financial assistance for college courses (e.g., for advanced degree, additional endorsements) More flexibility with scheduling, including flexible personal days Removal of duties not directly related to teaching (e.g., lunch or recess duties) Better support from your school leaders Better coaching from school or district None of the factors that are listed	

Q20a Would any factors other than the ones listed above persuade you to return to [(if Q4 = No or Q5 = I have never taught) starting] teaching in PK–12 in Michigan? [Display if any factor was selected]

1 Yes, what factors are they? Please specify:

2 No

Q20b You have not selected any factors that could persuade you to return to the position [(if Q4 = No or Q5 = I have never taught) starting a position] of a PK–12 teacher in Michigan schools. Are there any factors that could persuade you?

[Display if no factor was selected, or “none of the factors that are listed” was selected]

1 Yes, these factors include:

2 No, please explain: _____

[If Q20b = No then skip to Q22]

Q21 Among all the reasons you chose, which ones do you consider the most important in your decision to return to a position [(if Q4 = No or Q5 = I have never taught) starting a position] in PK–12?

Please select the top three reasons that are the most important to you. Please skip this question if the number of reasons you selected is already three or fewer.

1 _____

2 _____

3 _____

V BACKGROUND INFORMATION

The following section asks about your background information. Your responses will be used for classification purposes only.

Q22 What is your education level?

1 Bachelor’s degree (BA, BS)

2 Some graduate or professional education, but no degree

3 Master’s degree (MA, MS)

4 Doctorate degree (PhD, EdD)

5 Professional degree beyond bachelor’s degree (MD, JD, DDS, LLB)

6 Prefer not to answer

Q23 Including yourself, how many family members were living in your household or were financially dependent on you (or your spouse) during 2019?

Please skip this question if you prefer not to answer.

_____ Number of family members

Q24 How many family members counted in the previous item were 5 years of age or younger?

Enter 0 if none. Please skip this question if you prefer not to answer.

_____ Number of family members were 5 or younger

Q25 Which category represents the total combined BEFORE-TAX income of ALL FAMILY MEMBERS in your household during 2019? Include your own income. Include money from jobs, net business or farm income, pensions, dividends, interest, rent, Social Security payments, and any other income received by family members in your household.

- 1 Less than \$35,000
- 2 \$35,000 – \$49,999
- 3 \$50,000 – \$74,999
- 4 \$75,000 – \$99,999
- 5 \$100,000 – \$149,999
- 6 \$150,000 or more
- 7 Prefer not to answer

[END OF SURVEY]

Appendix C. Detailed findings

This appendix includes detailed findings for the analyses discussed in the main report.

Research question 1: Comparison of characteristics among teachers who were teaching in 2017/18, teachers who had taught recently, and teachers who had not taught recently

The descriptive analysis calculated frequencies and percentages to describe and compare the distribution of characteristics among teachers who had a teaching assignment in a Michigan public school in 2017/18 and those who had taught recently (had a teaching assignment between 2013/14 and 2016/17 but not in 2017/18) or had not taught recently (did not have a teaching assignment between 2013/14 and 2017/18; table C1).

Table C1. Characteristics of teachers who were teaching in 2017/18, teachers who had taught at some point between 2013/14 and 2016/17 (but were not teaching in 2017/18), and teachers who had not taught between 2013/14 and 2017/18

Characteristic	Teaching in 2017/18 (n = 80,558)		Had taught at some point between 2013/14 and 2016/17 but not in 2017/18 (n = 18,367)		Had not taught between 2013/14 and 2017/18 ^a (n = 42,885)	
	Number	Percent	Number	Percent	Number	Percent
Gender						
Female	61,050	75.8	13,812	75.2	32,193	76.1
Male	19,508	24.2	4,555	24.8	10,092	23.9
Race/ethnicity						
From a racial/ethnic minority group	6,884	8.5	2,505	13.6 ^b	4,044	9.6
Not from a racial/ethnic minority group	73,674	91.5	15,862	86.4 ^b	38,197	90.3
Missing data	0	0.0	0	0.0	44	0.1
Age						
Below 25	245	0.3	7	0.0	997	2.3
25–34	16,175	20.1	4,230	23.0	12,189	28.4 ^b
35–44	26,822	33.3	5,571	30.3	12,793	29.8
45–54	26,460	32.9	4,058	22.1 ^b	10,757	25.1 ^b
55–64	9,969	12.4	3,302	18.0 ^b	5,293	12.3
Over 64	887	1.1	1,199	6.5 ^b	856	2.0
Certification grade band						
Elementary	46,709	58.0	10,177	55.4	24,145	57.1
Secondary	32,943	40.9	7,976	43.4	17,844	42.2
Missing data	906	1.1	214	1.2	291	0.7
Year of initial certification						
Before 2004	45,717	56.8	9,367	51.0 ^b	18,394	43.5 ^b
2005–09	15,048	18.7	3,828	20.8	7,489	17.7
2010–14	12,785	15.9	4,307	23.5 ^b	9,506	22.5 ^b
2015–18	7,009	8.7	865	4.7	6,897	16.3 ^b
Before 2001	1,281	1.6	406	2.2	2,805	6.6 ^b
2001–18	79,277	98.4	17,961	97.8	39,480	93.4 ^b

Note: The percentages are column percentages.

a. Includes both teachers who had not taught recently and those who had never taught in a Michigan public school.

b. A difference of at least 5 percentage points compared with certified teachers who were teaching in 2017/18.

Source: Authors' calculations based on certification data from the Michigan Department of Education.

The study team used multinomial regressions to identify associations between teaching status (had taught recently and had not taught recently versus teaching in 2017/18) and teachers' characteristics. The results suggest that teachers who had not taught recently and those who had taught recently have a significantly greater

probability of being from a racial/ethnic minority group than teachers who were teaching in 2017/18 (1.68 and 1.11 times greater probability, respectively; table C2). The results also suggest that teachers who had taught recently have a lower probability of being age 35 or older (0.92 probability) and have a greater probability of being certified in the secondary grade band (1.1 times greater probability) compared with teachers who were teaching in 2017/18.

Table C2. Associations between teacher characteristics and teaching experience in a Michigan public school, 2013/14–2017/18 (relative risk ratio)

Variable	Not teaching in 2017/18	
	Had taught at some point since 2013/14 (n = 18,367)	Had not taught since 2013/14 (n = 42,885)
Characteristic		
Male	1.01 (0.02)	1.00 (0.02)
From a racial/ethnic minority group	1.68*** (0.01)	1.11*** (0.02)
Age 35 or older	0.92** (0.03)	1.02 (0.02)
Certified for secondary grade band	1.1*** (0.02)	1.02 (0.01)
Control variable		
First certified 2004 or before ^a	1.67*** (0.06)	0.36*** (0.01)
First certified between 2005 and 2009 ^a	2.10*** (0.08)	0.51*** (0.01)
First certified between 2010 and 2014 ^a	2.75*** (0.11)	0.76*** (0.02)
Last certification activity in 2000 or before	1.60*** (0.09)	6.26*** (0.22)

* Significant at $p < .05$; ** significant at $p < .01$; *** significant at $p < .001$.

Note: Numbers in parentheses are standard errors. Relative risk ratios were generated from a multinomial regression, with teachers who were teaching in 2017/18 as the base group. Estimates indicate probabilities of certain groups of certified teachers having a characteristic. Estimates greater than 1 indicate a greater probability of having a characteristic compared to teachers who were teaching in 2017/18; estimates lower than 1 indicate a lower probability. For example, the probability of a certified teacher who had taught at some point between 2013/14 and 2016/17 (but not in 2017/18) being first certified before 2004 is 1.67 times that of a certified teacher who was teaching in 2017/18.

a. Reference group is teachers first certified after 2014.

Source: Authors' calculations based on multinomial regression model using certification data from the Michigan Department of Education.

Research question 2: Reasons for not teaching

The study team conducted two analyses to address the second research question. First, the study team calculated the frequency with which survey respondents selected various reasons as one of the three most important reasons why they were not teaching and the percentages of respondents who chose those reasons. Second, the study team examined the association between respondents' characteristics and their most important reasons for not teaching.

The reason most frequently selected as one of the three most important reasons for not teaching was wanting a higher salary; wanting a higher salary was one of the most important three reasons for not teaching across teachers with various characteristics. The frequencies with which respondents selected the three most important reasons why they were not teaching, including multiple-choice and responses to open-ended questions, ranged from less than 4 (less than 0.1 percent) for "called up for military service" to 1,753 (33 percent) for "wanted a higher salary" (table C3). "Wanted a higher salary" was the most frequently selected reason among the three most

important reasons for not teaching among survey respondents with different characteristics (29–40 percent of respondents, depending on the characteristic). Only respondents who had never taught in a Michigan public school selected “could not obtain a full-time position” (53 percent) more frequently among the three reasons than “wanted a higher salary” (22 percent; table C4).

Table C3. Survey respondents who selected each reason for not teaching as one of their three most important reasons, 2019/20

Reason	Number	Percent
Wanted a higher salary	1,753	33.1
Became an administrator or instructional leader ^a	1,384	22.3
Wanted more career growth opportunities	837	15.8
Took courses to improve career opportunities within education	584	11.0
Could not obtain a full-time position	549	10.4
Wanted a more flexible schedule	526	9.9
Had difficulty managing classroom or discipline	521	9.8
Considered school leadership support inadequate ^b	518	9.8
Needed to care for children	516	9.7
Spent too much time on paperwork and other noninstructional duties ^b	515	9.7
Classes were too large ^b	366	6.9
Took a nonteaching school position such as counselor or athletic director	340	6.4
Did not want pay linked with student performance	244	4.6
Had limited classroom resources ^b	206	3.9
Spent too much time on test preparation ^b	206	3.9
Needed to take care of my health	197	3.7
Burned out or job became too stressful ^a	188	3.6
Spent too much time on other duties such as recess or hall monitor ^b	173	3.3
Took courses to improve career opportunities outside education	172	3.2
Needed better job security	151	2.9
Had no influence on school-level decisions ^b	150	2.8
Spouse relocated	147	2.8
Needed a job that was more conveniently located	140	2.6
Problems with parents	139	2.6
Could not obtain a part-time position	130	2.5
Not enough autonomy in classroom ^b	130	2.5
Problems with standardized testing	125	2.4
Took a postsecondary position in teacher education	121	2.3
Needed better benefits	116	2.2
Needed better retirement benefits	106	2.0
Had difficulty providing instruction to students with special needs	92	1.7
Had difficulty meeting state content standards	83	1.6
Inadequate teacher collaboration	82	1.5
Quality of professional development was inadequate ^b	72	1.4
Professional development for new teachers (coaching) was inadequate ^b	67	1.3
Needed to care for family members (other than children)	66	1.2
Lack of respect from students, parents, society ^a	62	1.2
Teaching assignment did not match endorsement area ^b	59	1.1
Had difficulty differentiating instruction	53	1.0
Dissatisfied with school building and maintenance ^b	47	0.9
Professional development for experienced teachers was inadequate ^b	46	0.9
Problems with teacher evaluation ^a	43	0.8
Difficulty using data to inform instruction	34	0.6
Retired ^a	28	0.5
State or district politics ^a	28	0.5
Did not have good relationship with students ^b	12	0.2

Reason	Number	Percent
Had difficulty with a variety of instructional methods	12	0.2
Had difficulty using computers in instruction	12	0.2
Had difficulty using summative assessment	11	0.2
Had difficulty teaching my subject matter	10	0.2
Had difficulty using formative assessment	8	0.2
Unable to communicate with parents ^a	6	0.1
Called up for military service	< 4	< 0.1

Note: Percentages are based on the number of respondents who selected the reason as one of their three most important and the total number of respondents who identified at least one reason for not teaching ($n = 5,294$). Percentages are unweighted. The categories are not mutually exclusive.

a. The options were coded from responses by survey respondents to open-ended questions.

b. Only teachers who had previously taught responded to this question ($n = 4,886$).

Source: Authors' calculations based on the Michigan Department of Education's survey of teachers who are not teaching, administered between December 2019 and January 2020 (see appendix B for survey instrument).

Table C4. Percentages of survey respondents who selected any of the 10 most frequently selected reasons as one of their three most important reasons for not teaching, by respondent characteristics, 2019/20

Reason for not teaching	Previously taught		From a racial/ethnic minority group		Has a child age 5 or younger at home		Working in a school or district in nonteaching capacity		Certification grade band	
	Yes	No	Yes	No	Yes	No	Yes	No	Elementary	Secondary
1 Wanted a higher salary	34.0 (1)	22.1 (2)	38.5 (1)	32.6 (1)	40.1 (1)	31.6 (1)	36.9 (1)	29.4 (1)	31.1 (1)	35.3 (1)
2 Became an administrator or instructional leader	24.0 (2)	2.5 (16)	20.4 (2)	22.5 (2)	16.5 (3)	25.0 (2)	35.8 (2)	7.1 (10)	21.7 (2)	23.1 (2)
3 Wanted more career growth opportunities	16.5 (3)	7.8 (8)	19.6 (3)	15.4 (3)	17.0 (2)	15.8 (3)	19.8 (3)	11.6 (5)	14.6 (3)	17.2 (3)
4 Took courses to improve career opportunities in education	11.3 (4)	7.8 (9)	15.7 (4)	10.6 (5)	13.4 (6)	10.5 (5)	17.0 (4)	4.3 (19)	11.3 (5)	10.7 (4)
5 Could not obtain a full-time position	6.8 (11)	53.4 (1)	7.5 (10)	10.7 (4)	10.0 (8)	10.7 (4)	5.5 (12)	16.1 (2)	10.5 (8)	10.2 (6)
6 Wanted more flexible schedule	9.8 (7)	11.3 (6)	7.7 (8)	10.2 (7)	14.8 (4)	8.5 (9)	8.1 (7)	12.3 (4)	9.7 (9)	10.2 (7)
7 Had difficulty managing classroom or discipline	9.7 (8)	12.0 (5)	10.1 (7)	9.8 (9)	8.3 (10)	10.0 (6)	8.3 (6)	11.4 (7)	10.6 (7)	9.0 (8)
8 Considered school leadership support inadequate	10.6 (5)	–	11.1 (5)	9.7 (10)	10.4 (7)	9.7 (7)	7.0 (9)	12.9 (3)	9.3 (10)	10.3 (5)
9 Needed to care for children	9.4 (9)	14.2 (3)	4.8 (15)	10.2 (6)	14.1 (5)	8.1 (10)	7.8 (8)	11.6 (6)	12.6 (4)	6.5 (11)
10 Spent too much time on paperwork and other noninstructional duties	10.5 (6)	–	7.7 (9)	9.9 (8)	9.9 (9)	9.7 (8)	9.3 (5)	10.1 (8)	10.8 (6)	8.6 (9)

– indicates that the reason was not offered to certified teachers who never taught.

Note: Numbers in parentheses are the ranking of that reason for certified teachers with that characteristic. The categories are not mutually exclusive.

Source: Authors' calculations based on the Michigan Department of Education's survey of teachers who are not teaching, administered between December 2019 and January 2020 (see appendix B for survey instrument).

The likelihood of a respondent selecting a specific reason as one of the three most important reasons for not teaching varied by whether the respondent had ever taught before, by race/ethnicity, by the presence of a young child in the home, by whether they worked in a public school or district in a nonteaching capacity, and by the grade band that they were certified to teach. The study team examined whether respondents with different characteristics were more likely than others to select specific reasons for not teaching as one of the three most important. The logistic regression analyses had respondents' selected reason as the binary outcome variable, and the predictors of interest were whether they had previously taught, their race/ethnicity, the presence of a child age 5 or younger at home, whether they were working in a school or district in a nonteaching capacity, and whether their teaching certificate was for the elementary grade band or the secondary grade band. The models controlled for other characteristics that the Michigan Department of Education found less policy relevant and to account for nonresponse, including respondents' gender, age, household income, year of initial certification, and the year of last certification activity. These regression models were run on the 10 reasons most frequently selected as one of the most important reasons for not teaching (table C5).

Table C5. Associations between survey respondents' characteristics and their three most important reasons for not teaching, 2019/20

Predictor	Reason for not teaching									
	Wanted a higher salary	Became an administrator or instructional leader	Wanted more career growth opportunities	Took courses to improve career opportunities within education	Could not obtain a full-time position	Wanted a more flexible schedule	Had difficulty managing classroom or discipline	Considered school leadership support inadequate	Needed to care for children	Spent too much time on paperwork and other non-instructional duties
Previously taught ^a	1.73*** (0.25)	8.29*** (3.05)	1.81** (0.38)	0.95 (0.21)	0.06*** (0.01)	0.99 (0.19)	1.02 (0.20)	—	0.70 (0.13)	—
From a racial/ethnic minority group	1.28* (0.09)	1.02 (0.14)	1.27 (0.12)	1.67** (0.10)	0.86 (0.26)	0.86 (0.24)	0.91 (0.22)	1.12 (0.16)	0.53* (0.49)	0.68 (0.32)
Has a child age 5 or younger at home	1.16 (0.10)	0.83 (0.09)	1.11 (0.12)	1.35* (0.17)	0.69* (0.10)	1.85*** (0.23)	0.84 (0.12)	0.95 (0.13)	2.63*** (0.37)	1.08 (0.15)
Working in a school or district in nonteaching capacity	1.57*** (0.12)	5.77*** (0.60)	1.91*** (0.18)	4.53*** (0.61)	0.30*** (0.04)	0.66*** (0.07)	0.76* (0.09)	0.56*** (0.06)	0.64*** (0.08)	0.88 (0.10)
Certified for secondary grade band	1.02 (0.07)	0.95 (0.08)	1.11 (0.10)	0.95 (0.10)	0.96 (0.12)	1.10 (0.12)	0.85 (0.09)	1.24* (0.14)	0.59*** (0.08)	0.85 (0.10)
Control variable										
Male	1.95*** (0.15)	2.03*** (0.18)	1.32** (0.13)	1.38** (0.16)	0.87 (0.12)	0.46*** (0.06)	0.61*** (0.08)	0.67** (0.09)	0.11*** (0.03)	0.78 (0.10)
Household income \$50,000 or more	2.28*** (0.32)	1.94** (0.42)	2.86*** (0.64)	2.22** (0.60)	0.49*** (0.07)	1.95** (0.42)	0.64** (0.10)	0.86 (0.14)	0.92 (0.18)	0.90 (0.17)
First certified in 2004 or before ^b	0.87 (0.17)	1.86 (0.62)	1.29 (0.35)	1.13 (0.39)	0.74 (0.21)	1.40 (0.42)	1.01 (0.31)	0.89 (0.23)	2.79* (1.13)	2.35* (0.85)
First certified between 2005 and 2009 ^b	1.41 (0.28)	1.22 (0.42)	1.23 (0.34)	1.36 (0.47)	1.47 (0.42)	1.16 (0.35)	0.92 (0.28)	0.82 (0.22)	1.71 (0.69)	1.71 (0.62)
First certified between 2010 and 2014 ^b	1.21 (0.24)	0.96 (0.34)	0.98 (0.27)	0.81 (0.29)	1.62 (0.45)	1.23 (0.36)	1.48 (0.28)	0.80 (0.21)	1.57 (0.63)	1.59 (0.57)
Age 35 or older	0.65** (0.08)	1.47 (0.32)	0.57** (0.10)	0.69 (0.15)	2.03*** (0.40)	0.65* (0.12)	1.22 (0.43)	0.93 (0.17)	0.96 (0.21)	0.79 (0.17)
Last certification activity before 2000	1.02 (0.14)	0.93 (0.13)	1.01 (0.17)	0.93 (0.18)	0.52** (0.11)	0.85 (0.18)	0.80 (0.16)	1.68* (0.41)	0.41*** (0.07)	1.81* (0.43)
Constant	0.15*** (0.05)	0.01** (0.00)	0.04*** (0.02)	0.04*** (0.02)	3.41** (1.43)	0.08*** (0.04)	0.20*** (0.08)	0.14*** (0.06)	0.13*** (0.07)	0.03*** (0.02)

* Significant at $p < .05$; ** significant at $p < 0.01$; *** significant at $p < 0.001$.

Note: Regressions are based on survey respondents for whom all predictor information was available ($n = 4,022$). Numbers are odds ratios generated from logistic regression models, and numbers in parentheses are the associated standard errors. Estimates indicate whether certified teachers with certain characteristics have higher odds of selecting the reason among their three most important reasons for not teaching. For example, the odds of a certified teacher with previous teaching experience selecting "I wanted a higher salary" as a reason is 1.73 times that of a certified teacher who never taught. Values less than 1 indicate that the reference group had higher odds of selecting the reason than the predictor group.

a. Respondents who had never taught were not presented with reasons involving school leadership or amount of time spent performing noninstructional tasks.

b. Reference group is teachers who were first certified after 2014.

Source: Authors' calculations based on the Michigan Department of Education's survey of teachers who are not teaching, administered between December 2019 and January 2020 (see appendix B for survey instrument).

Research question 3: Incentives that would motivate teachers to teach in a public school

The study team conducted the same two analyses for research question 3 that it conducted for research question 2. First, the study team calculated the frequency with which survey respondents selected various incentives as one of the three most important incentives that would motivate them to teach in a Michigan public school. Second, the study team examined the association between respondents' characteristics and their three most important incentives.

The incentive most frequently selected as one of the three most important was an increase in salary; a higher salary was the reason most frequently selected as one of the three most important across teachers with different characteristics. The frequency with which respondents selected incentives for teaching as one of the three most important, including multiple-choice and responses to open-ended questions, ranged from 10 (0.1 percent) for "more autonomy in the classroom" to 3,524 (36 percent) for "an increase in salary" (table C6). Higher salary was the incentive most frequently selected as one of the three most important incentives that would motivate them to teach by survey respondents with different characteristics (40–54 percent of respondents, depending on the characteristic; table C7).

Table C6. Survey respondents who selected each incentive as one of the three most important incentives that would motivate them to teach in a Michigan public school, 2019/20

Possible incentive for teaching	Number	Percent
An increase in salary	3,524	35.8
An easier way to renew or earn certification	1,964	20.0
Smaller class sizes or smaller student load	1,525	15.5
Ability to maintain teacher retirement benefits	1,485	15.1
A less costly way to renew or earn certification	1,261	12.8
Forgiveness of student loans	1,224	12.4
An improvement in benefits (including insurance and retirement plans)	886	9.0
Availability of part-time teaching positions	794	8.1
Better support from school leaders	790	8.0
Availability of full-time teaching positions	771	7.8
Flexibility on curriculum choices or instructional methods	729	7.4
More flexibility with scheduling, including flexible personal days	681	6.9
Availability of teaching positions in desired subjects	549	5.6
Availability of teaching positions in desired grade bands	486	4.9
Removal of duties not directly related to teaching (for example, lunch or recess duties)	474	4.8
Financial assistance for college courses (for example, for advanced degree, additional endorsements)	261	2.7
State certification reciprocity (a state's acceptance of teacher certifications from other states)	205	2.1
High-quality professional development opportunities	158	1.6
Availability of suitable childcare options like subsidies and access to childcare	155	1.6
Availability of mentoring support for new teachers	148	1.5
Change in standardized testing ^a	132	1.3
Help with discipline ^a	114	1.2
Better coaching from school or district	93	0.9
Change in teacher evaluation ^a	77	0.8
More respect or appreciation from students, parents, or society ^a	66	0.7
Better collaboration with parents ^a	60	0.6
Housing incentives (for example, subsidies, rent assistance, low interest loans, relocation assistance)	54	0.5
If lost/left current position ^a	34	0.3
More autonomy in the classroom ^a	10	0.1

Note: Percentages are based on number of respondents who selected the incentive among the three most important for motivating them to teach ($n = 7,653$). Percentages are unweighted. The categories are not mutually exclusive.

a. The options were coded from responses by survey respondents to open-ended questions.

Source: Authors' calculations based on the Michigan Department of Education's survey of teachers who are not teaching, administered between December 2019 and January 2020 (see appendix B for survey instrument).

The likelihood of respondents' selecting specific incentives for teaching among the three most important varied by whether respondents had ever taught before, by their race/ethnicity, by the presence of a young child in the home, by whether they worked in a school or district in a nonteaching capacity, by the grade band that they were certified to teach, and by whether they were open to teaching in a public school. The study team used logistic regression to examine the association between respondents' characteristics and the likelihood of their selecting incentives that appeared most frequently among the three most important. The characteristics included whether respondents had previously taught, their race/ethnicity, the presence of a child age 5 or younger at home, whether they worked in a school or district in a nonteaching capacity, whether their teaching certificate was for the elementary grade band or secondary grade band, and whether they were open to teaching in a public school. The regression model included control variables such as gender, age, household income, the year of first teaching certification, and year of last certification activity. The regression models were run on each of the 10 incentives that were the most frequently selected by survey respondents (table C8).

Table C7. Percentages of survey respondents who selected any of the 10 most frequently selected incentives that would motivate them to teach, by respondent characteristics, 2019/20

	Incentive for teaching	Previously taught		From a racial/ethnic minority group		Has a child age 5 or younger at home		Working in a school or district in a nonteaching capacity		Certification grade band		Would consider teaching	
		Yes	No	Yes	No	Yes	No	Yes	No	Elementary	Secondary	Yes	No
1	An increase in salary	46.6 (1)	39.0 (1)	48.9 (1)	45.7 (1)	53.7 (1)	43.9 (1)	54.2 (1)	42.4 (1)	45.7 (1)	46.7 (1)	40.4 (1)	53.8 (1)
2	An easier way to renew or earn certification	24.8 (2)	36.2 (2)	21.3 (3)	26.1 (2)	28.1 (2)	24.7 (2)	16.1 (5)	29.9 (2)	26.0 (2)	25.1 (2)	32.2 (2)	16.6 (5)
3	Smaller class sizes or smaller student load	19.8 (4)	21.8 (5)	18.9 (5)	20.0 (3)	19.9 (3)	19.4 (4)	17.7 (4)	20.9 (3)	22.0 (3)	17.7 (4)	16.5 (5)	24.4 (2)
4	Ability to maintain retirement benefits	20.8 (3)	2.5 (10)	20.6 (4)	19.3 (4)	10.2 (8)	22.4 (3)	22.8 (2)	17.9 (5)	18.6 (4)	20.1 (3)	19.3 (4)	19.6 (3)
5	A less costly way to renew or earn certification	15.8 (5)	24.8 (3)	12.6 (6)	16.9 (5)	16.9 (5)	16.2 (5)	13.0 (7)	18.0 (4)	17.3 (5)	15.6 (6)	19.7 (3)	12.1 (8)
6	Forgiveness of student loans	15.7 (6)	19.2 (6)	34.0 (2)	14.2 (6)	18.2 (4)	15.6 (6)	20.4 (3)	14.0 (6)	16.1 (6)	15.9 (5)	14.9 (6)	17.5 (4)
7	An improvement in benefits (including insurance/retirement plans)	12.0 (7)	6.7 (8)	9.7 (7)	11.8 (7)	9.9 (9)	12.2 (7)	15.7 (6)	9.8 (10)	10.9 (8)	12.5 (7)	10.1 (9)	13.6 (6)
8	Availability of part-time teaching positions	10.5 (9)	9.3 (7)	7.8 (10)	10.6 (8)	11.6 (6)	9.9 (9)	6.1 (10)	12.3 (7)	11.6 (7)	8.9 (10)	11.5 (8)	8.7 (9)
9	Better support from school leaders	10.6 (8)	6.5 (9)	9.0 (8)	10.5 (9)	10.1 (7)	9.9 (9)	7.2 (9)	11.7 (8)	10.6 (9)	10.2 (9)	8.9 (10)	12.3 (7)
10	Availability of full-time teaching positions	8.8 (10)	24.5 (4)	8.0 (9)	10.3 (10)	9.5 (10)	10.4 (8)	7.3 (8)	11.3 (9)	9.6 (10)	10.5 (8)	14.7 (7)	3.8 (10)

Note: Numbers in parentheses represent the ranking of that incentive for certified teachers with that characteristic. The categories are not mutually exclusive.

Source: Authors' calculations based on the Michigan Department of Education's survey of teachers who are not teaching, administered between December 2019 and January 2020 (see appendix B for survey instrument).

Table C8. Associations between survey respondents' characteristics and whether they selected each of the most frequently chosen incentives as most important in their decision to teach, 2019/20

Predictor	Incentive to teach									
	An increase in salary	An easier way to renew or earn certification	Smaller class sizes or smaller student load	Ability to maintain teacher retirement benefits	A less costly way to renew or earn certification	Forgiveness of student loans	An improvement in benefits (including insurance and retirement plans)	Availability of part-time teaching positions	Better support from school leaders	Availability of full-time teaching positions
Previously taught	1.59*** (0.16)	0.60*** (0.06)	1.04 (0.12)	7.38*** (2.19)	0.55*** (0.06)	0.83 (0.10)	1.88** (0.36)	1.05 (0.16)	1.78** (0.32)	0.35*** (0.04)
From a racial/ethnic minority group	1.07 (0.1)	0.81 (0.09)	0.90 (0.1)	1.01 (0.12)	0.74* (0.1)	3.06*** (0.29)	0.66* (0.10)	0.71* (0.12)	0.76 (0.12)	0.78 (0.12)
Has a child age 5 or younger at home	1.24** (0.08)	0.96 (0.07)	0.98 (0.08)	0.71** (0.07)	0.93 (0.08)	1.05 (0.09)	0.89 (0.09)	1.29* (0.13)	0.90 (0.09)	0.63*** (0.07)
Working in a school or district in nonteaching capacity	1.73*** (0.1)	0.45*** (0.03)	0.87 (0.06)	0.97 (0.07)	0.72*** (0.06)	1.86*** (0.14)	1.52*** (0.12)	0.46*** (0.05)	0.62*** (0.06)	0.68*** (0.07)
Certified for secondary grade band	0.94 (0.05)	0.95 (0.06)	0.85* (0.06)	1.08 (0.07)	0.99 (0.07)	0.95 (0.07)	1.05 (0.09)	0.98 (0.08)	0.97 (0.08)	1.01 (0.09)
Would consider teaching preK-12 in Michigan	0.56*** (0.03)	2.5*** (0.16)	0.60*** (0.04)	1.12 (0.07)	1.79*** (0.13)	0.76** (0.05)	0.75** (0.06)	1.39** (0.12)	0.72** (0.06)	4.36*** (0.48)
Control variable										
Male	1.42*** (0.09)	0.87 (0.07)	0.66*** (0.06)	1.36*** (0.11)	0.64*** (0.06)	1.03 (0.09)	1.64*** (0.14)	0.25*** (0.04)	0.84 (0.09)	1.37** (0.14)
Household income \$50,000 or more	1.66*** (0.13)	0.82* (0.07)	0.98 (0.09)	1.33** (0.14)	0.54*** (0.05)	0.79* (0.08)	1.43** (0.19)	1.57*** (0.21)	0.72** (0.08)	0.57*** (0.06)
First certified 2004 or before ^a	0.82 (0.11)	1.82*** (0.32)	0.83 (0.14)	14.12*** (6)	2.59*** (0.6)	0.46*** (0.08)	1.19 (0.28)	1.39 (0.31)	1.19 (0.26)	0.46*** (0.08)
First certified between 2005 and 2009 ^a	1.20 (0.17)	2.86*** (0.5)	0.75 (0.12)	4.30*** (1.85)	3.86*** (0.88)	0.87 (0.15)	1.02 (0.24)	0.89 (0.20)	1.20 (0.27)	0.71 (0.13)
First certified between 2010 and 2014 ^a	1.18 (0.16)	2.40*** (0.42)	1.04 (0.16)	2.42* (1.06)	2.4*** (0.55)	1.16 (0.19)	1.06 (0.25)	0.71 (0.16)	1.14 (0.25)	0.87 (0.15)
Age 35 or older	0.60*** (0.06)	1.21 (0.13)	0.90 (0.1)	1.2 (0.24)	1.01 (0.13)	1.44** (0.17)	1.06 (0.17)	1.08 (0.18)	0.78 (0.11)	1.07 (0.15)
Last certification activity before 2000	0.71*** (0.07)	2.21*** (0.23)	0.77* (0.1)	0.95 (0.1)	1.99*** (0.23)	0.34*** (0.07)	0.67* (0.1)	1.01 (0.15)	0.43*** (0.09)	1.1 (0.19)
Constant	0.55*** (0.1)	0.28*** (0.05)	0.39*** (0.08)	0.03*** (0.01)	0.32*** (0.07)	0.38*** (0.08)	0.03*** (0.01)	0.07*** (0.02)	0.13*** (0.04)	0.1*** (0.03)

* Significant at $p < .05$; ** significant at $p < 0.01$; *** significant at $p < 0.001$.

Note: Regressions are based on survey respondents for whom all predictor information was available ($n = 6,768$). Numbers are odds ratios generated from logistic regression models, and numbers in parentheses are the associated standard errors. Estimates indicate whether certified teachers with certain characteristics have higher odds of selecting the incentive as one of the three most important for motivating them to teach. For example, the odds that a certified teacher with previous teaching experience would select “an increase in salary” as an incentive are 1.59 times those of a certified teacher who never taught. Values less than 1 indicate that the reference group had higher odds of selecting the reason than the predictor group.

a. Reference group is teachers who were first certified after 2014.

Source: Authors’ calculations based on the Michigan Department of Education’s survey of teachers who are not teaching, administered between December 2019 and January 2020 (see appendix B for survey instrument).
