



Teacher Attrition in Charter Schools

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Executive Summary

While several studies have examined teachers' reasons for seeking employment in charter schools, few have asked why teachers are leaving them. This study of teacher attrition takes up that question, analyzing existing data from teacher surveys administered during state evaluations. Survey results were compared and re-analyzed based on teachers' decisions to leave or to stay in their charter schools the year following the survey. This analysis yielded substantive information about the characteristics of teachers who leave charter schools and about teachers' relative satisfaction with various elements of their experience.

The study examined many factors, or predictors, related to teacher attrition. Major findings include the following:

- The single background characteristic that strongly predicted teacher attrition was age: younger teachers in charter schools are more likely to leave than older teachers. No significant attrition differences appeared between males and females or for African-American teachers.
- Another strong predictor was grade level taught, with attrition rates being highest in the upper grades, especially grades 6, 7, 10, and 11. Special education teachers were only slightly more likely to leave charter schools than regular education teachers.
- Among teacher qualification variables, the best predictors were "years of experience" and "years at current school." Teachers with limited experience were significantly more likely to leave their charter schools. (It is presumed that many of these inexperienced teachers moved to teaching jobs in other schools.)
- Certification was also significant. Attrition was higher for non-certified teachers and for teachers who were teaching outside their certification areas; this situation may be related to the No Child Left Behind act's pressure for ensuring teaching staff meet its definition of "highly qualified."

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- Teachers with higher levels of formal education were more likely to stay, although this factor wasn't strongly predictive when controls for other variables were applied.
- Other strong and significant factors included teachers' relative satisfaction/dissatisfaction with the school's: 1) mission, 2) perceived ability to attain the mission, and 3) administration and governance. Generally, teachers who left were also routinely less satisfied with: curriculum and instruction; resources and facilities; and salary and benefits. It appeared that teachers who were not satisfied were leaving or were being asked to leave.

Some would argue that a certain amount of attrition is positive in that it corrects a mismatch between teacher and school. Overall, attrition rates in charter schools are generally between 20 and 25 percent; for new teachers, however, the attrition rate is close to 40 percent annually. Such extensive attrition cannot be characterized as desirable. High attrition consumes resources of schools that must regularly provide pre- and in-service training to new teachers; it impedes schools' efforts to build professional learning communities and positive and stable school cultures; and, it is likely to undermine the legitimacy of the schools in the eyes of parents.

Therefore, it is recommended that those who support charter schools focus efforts on reducing teacher attrition, especially the excessively high turnover of new young teachers, in charter schools. Specific suggestions include the following:

- Discrepancies between teachers' expectations for charter schools and those schools' realities should be identified, and strategies for narrowing the gaps should be designed and implemented.
- Efforts should be made to strengthen teachers' sense of security as much as possible.
- Efforts should be made to increase teachers' satisfaction with working conditions, salaries, benefits, administration, and governance.

Although the responses from sampled teachers were generally positive regarding their charter school, this study revealed that research on satisfaction often excludes data collection from teachers who are leaving or who have left charter schools. The large numbers of teachers who are "voting with their feet" suggest substantive frustration with working conditions and dissatisfaction with salaries, benefits, administration, and governance. Finally, the erosion of the teaching force each year indicates that many charter schools are going to have an especially hard time building professional learning communities that can make a difference in the education of children. Therefore, the high attrition rates for teachers in charter schools constitute one of the greatest obstacles that will need to be overcome if the charter school reform is to deliver as promised.

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Introduction

There are considerable performance differences among charter schools, both among and within states.¹ One factor increasingly viewed as important to charter school success is the quality and stability of the teaching force. The knowledge base regarding teachers in charter schools is still limited, however.

In addition to providing families with more choices, charter schools were intended to provide teachers with new opportunities. Teachers can help start a new charter school, or they can choose to work in one that allows them freedom to teach as they think best. While several studies have examined why teachers choose to work in charter schools, few have asked why teachers might later choose to leave them. The research on teacher attrition may be scant in part because it is difficult for researchers and evaluators to conduct follow up investigations once a teacher has left a charter school. In our own research on charter school reforms,² efforts to contact teachers who had left charter schools were complicated by charter school administrators' unwillingness to share information regarding staff who were dismissed or who were dissatisfied and left. To overcome this barrier, this study has used an innovative and non-intrusive approach to determine the characteristics of teachers who leave charter schools and their likely reasons for leaving.

The Charter Ideal and Teachers

The charter concept assumes that a good match between teachers' beliefs and interests and schools' educational missions will minimize time spent managing value conflicts among personnel and maximize time spent implementing effective educational strategies. Providing teachers with school choice might also promote shared professional culture and greater professional autonomy, which research suggests ultimately improve student achievement.³ Moreover, charter proponents often argue that by providing a better match between teachers' preferences and schools, charter schools encourage teachers to innovate. Teachers' satisfaction with facilities, autonomy, and opportunities for professional development are all relevant to innovation. Indeed, literature on organizational innovation suggests that people innovate when they have sufficient resources, appropriate incentives, and professional autonomy.⁴

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Just as school choice for families can lead to segregation, however, choice for teachers might also have a darker side. Critics have argued that the system described above leads to charter schools populated by teachers with inferior training and experience.

Attrition Rates in Charter Schools

In considering attrition rates, it is important to note that statistics may include teachers who simply move from one school or one state to another, for reasons that may have little to do with the school being left. While rates are therefore not an exact measurement, they can nevertheless reveal trends and differences worth thinking about. In traditional public schools, attrition rates among teachers typically range from 11 to 14 percent.⁵ Teacher attrition rates for charter schools are, however, significantly higher. Overall, the range in the states we have studied varies from 15-40 percent, with a 20 to 25 percent range being most common. These are particularly troubling trends not only because the rates are excessively high, but also because they decline only minimally over time. Like all averages, these state averages mask vast differences among individual schools: some schools experience little attrition, while others lose large portions of their teachers and staff year after year.

Objectives of the Study

The overall goal of the study was to identify and describe the factors related to teacher attrition in charter schools. Specific objectives included to:

- Identify characteristics of teachers who leave charter schools, and compare these with teachers that remain.
- Compare and contrast relative qualifications of teachers who stay in charter schools with those who leave.
- Compare the reasons of teachers who leave and of teachers who stay for initially choosing to work in a charter school.
- Compare levels of satisfaction among teachers who stay and those who leave relative to the: (1) mission of the school, (2) curriculum and instruction, (3) resources and facilities, (4) salary and benefits, and (5) opportunities for professional development.
- Describe and discuss policy implications of the findings as well as possible strategies to improve charter schools' ability to recruit and retain qualified teachers.

Methods and Data Sources

The Evaluation Center at Western Michigan University conducted nine contracted evaluations of charter school reforms in six different states between 1997 and 2006. This study is based on survey data from these state evaluations. Across all six states, a total of 6,064 completed teacher/staff surveys were collected. The response rates varied by year and state, but generally ranged from 75 percent to 92 percent; these exceptionally high rates resulted from extensive follow-up of teachers who did not initially complete surveys.

Schools cooperated by helping the researchers develop annual lists of teachers, staff and key administrators to be surveyed; those identified had all been employed more than half time. Individual survey packets were distributed, each including a cover letter, postage-paid return envelope, and a survey coded to represent particular schools and teachers. The unique ID codes, which made the survey process confidential but not anonymous, made it possible to track individual teachers during the survey process and from year to year as well as to follow up with teachers who did not return the survey. Also, the coding allowed us to track changes over time among teachers who remained in the schools. Thus, surveys provided extensive information on teacher staffing patterns and perceptions in the schools studied.

Measuring Teacher Attrition

Initially, we developed state reports based on charter school administrators' estimates of teacher attrition, which proved inaccurate. When it became evident administrators were severely underestimating the scope of the problem, we began comparing annual lists of staff to determine which teachers and staff had left individual schools. This comparison allowed us to accurately determine attrition in individual schools. The resulting new data on "stayers" and "leavers" is the base of this report.

Narrowing the Focus of the Study

Table 1 contains the number of staff surveys collected by state and year; Michigan was excluded because charter schools were surveyed only once, which meant that we could not determine which teachers stayed or left the year after the survey. Data for this study was restricted to one year in order to avoid over-representing teachers who remained in individual schools long term; that is, each teacher's experience is represented only once in this analysis, rather than over and over again as it would be if we aggregated data over multiple years. The largest sample with comparison data for each state was selected; these appear in bold and with underlines

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in Table 1 below.⁶ The experiences of 2,532 teachers and staff are represented in the resulting sample.

Table 1. Total Number of Teachers and Staff Surveyed in State Evaluations Conducted by The Evaluation Center

	<i>Michigan</i>	<i>Connecticut</i>	<i>Pennsylvania</i>	<i>Illinois</i>	<i>Ohio</i>	<i>Delaware</i>
1997-98	728	136				
1998-99		110	447			
1999-00		<u>285</u>	536	<u>122</u>		
2000-01				135	46	
2001-02		188	<u>1,706</u>	214	<u>61</u>	
2002-03			142		80	
2003-04						375
2004-05						<u>358</u>
2005-06						377
Total	728	719	2,831	471	187	1,110

For the selected sample years: 100 percent of charter schools in Connecticut and Delaware participated in the survey; in Pennsylvania, 73 out of 76 charter schools participated; in Ohio, 4 Cleveland charter schools participated; and in Illinois, 11 of 19 charter schools participated.

Surveys were completed by a diverse array of staff, including teachers, special education teachers, teaching assistants, and key administrators (see Figure 1). Attrition rates were highest among teaching assistants or paraprofessionals (36.4%), and lowest for key administrators (22%).

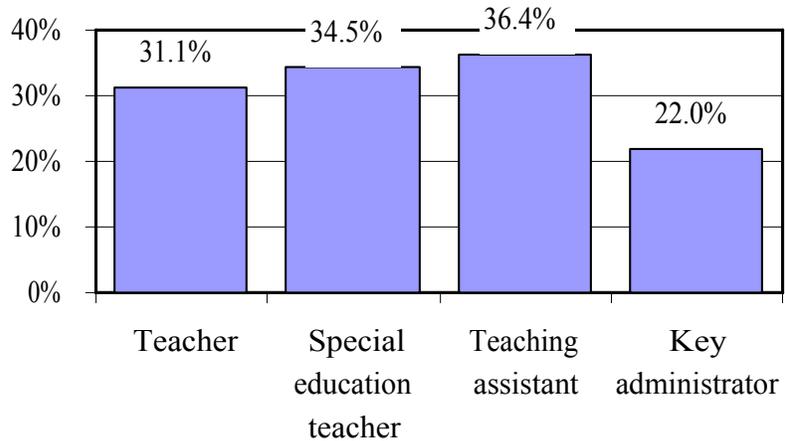


Figure 1. Attrition Rates by Categories of Staff

For this analysis of teacher attrition, the sample was further narrowed to include responses only from classroom teachers or special

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education teachers (see Table 2), which resulted in a pool of 1,764 teachers. This group was used for subsequent analyses in this report, unless otherwise noted. Given this large number of teachers, and given the high response rates achieved in the state evaluations, we are confident that the data provided a good picture of classroom teachers in charter schools.

Table 2. Classroom Teachers Who Left or Stayed at the Charter School in the Year Following the Survey

	<i>Connecticut</i>	<i>Pennsylvania</i>	<i>Illinois</i>	<i>Ohio</i>	<i>Delaware</i>	<i>Total</i>
Teachers who left year after survey was administered	68	357	36	14	78	553
Teachers who remained	96	847	48	24	196	1,211
Total number of teachers	164	1,204	84	38	274	1,764
Percent attrition	41.5%	29.7%	42.9%	36.8%	28.5%	31.3%
Number of schools represented	16	73	11	4	13	117

Overall, the attrition rate averaged 31.3 percent. Rates fluctuated considerably from year to year within each state, however, with Connecticut and Illinois experiencing the highest attrition rates for the year analyzed here. More typically, annual attrition rates in these two states were approximately 25 percent.

For the purpose of this study, we have used a more limited definition of teacher attrition than is typical of the research literature. Specifically, a “stayer” is defined as a teacher who had worked at a charter school for at least a year before completing our survey and who returned to the school the next year. A “leaver” is simply any teacher who left the school in the year after completing the survey. These two definitions exclude a group of teachers who were in their first year at the charter school when they completed the survey but returned the next year. As a result, 433 teachers were classified as neither “stayers” or “leavers.” Data for this group does, however, appear in the tables in Appendix A in order to demonstrate how similar these teachers are to those who have already chosen to leave their charter schools.

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This similarity is an important factor, since there is especially high attrition among charter school teachers in their first year (see Figure 2).

Strong similarity between first year teachers and “leavers”

suggests that an attrition trend is likely to continue in the subsequent year. Because “stayers” all have been at their schools for two or more years, they provide a more consistent sample for analysis.

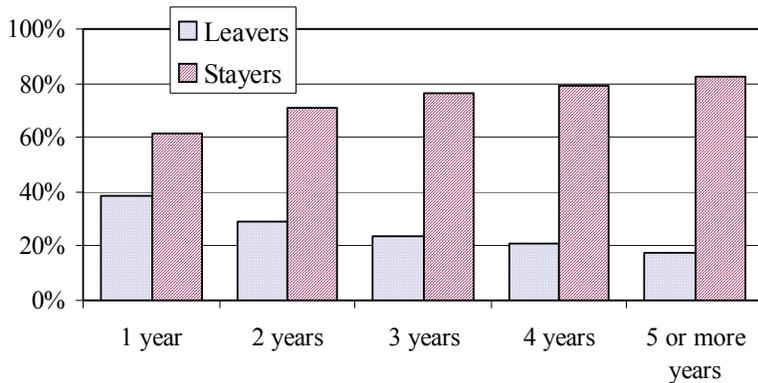


Figure 2. Distribution of Stayers and Leavers by the Number of Years at Current Charter School

Limitations of the Study

An important limitation of our data and analyses is that we focused only on teachers who leave charter schools. Given the nature and design of this study, we cannot determine whether or how many of these teachers might be leaving not simply their charter schools, but the profession of teaching.⁷

Also, findings from this study should be generalized cautiously, since a number of key charter school states (Arizona, California, Florida and Texas, for example) were not included.

Attrition and Background Characteristics of Teachers

Gender

In terms of gender, 71.4 percent of the teachers were female and 28.6 percent were male. This is not surprising, because female teachers and staff are still the majority in charter schools, just as they are in other public schools. Attrition rates were only slightly higher for male teachers (32.9%) than for female teachers (31.2%). Other studies not specific to charter schools have yielded the opposite results. One⁸ found that women experience higher attrition rates; another⁹ found that white male teachers in traditional public schools had a 5 percent lower adjusted rate of attrition than female teachers. A third found that males remained in their teaching positions longer than females when teaching salaries increased relative to potential earnings outside the public school system.¹⁰

Race/Ethnicity

Data indicated that 74.4 percent of teachers surveyed were white, 20 percent African American, 3.8 percent Hispanic, 1.4 percent Asian or Pacific Islander, and 0.4 percent Native American.

Figure 3 illustrates the proportion of teachers from each ethnic group that either left or stayed at the school in the

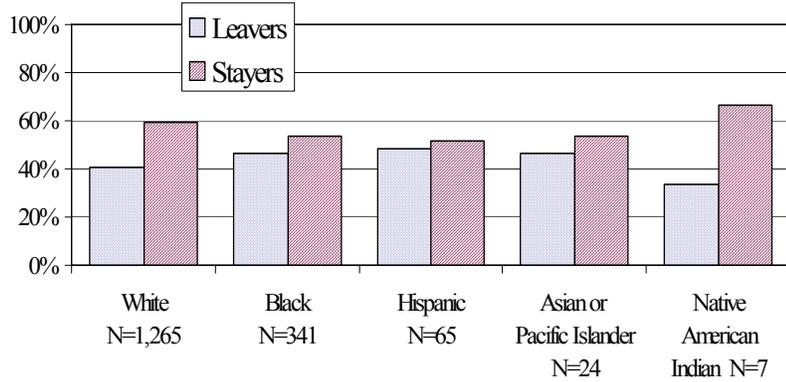


Figure 3. Distribution of Stayers and Leavers by Ethnicity of Teachers

year after the survey was administered. African-American teachers have the highest attrition rates at 37.4 percent, perhaps at least in part because these teachers are more concentrated in urban schools where attrition rates are typically higher than in non-urban schools. Ingersoll in 2001 found that minority teachers were less likely than white teachers to quit teaching.¹¹ Kirby et al.¹² found in 1999 that Hispanic teachers had the lowest early attrition rates. Table 3 presents the distribution of teachers who left or stayed by ethnic group.

Table 3. Distribution of Stayers and Leavers by Race/Ethnicity

	<i>White</i>	<i>African American</i>	<i>Hispanic</i>	<i>Asian or Pacific Islander</i>	<i>Native American Indian</i>	<i>Total</i>
Leavers (N=551)	71.3%	23.8%	3.4%	1.1%	.4%	100%
Stayers (N=750)	75.8%	20.1%	2.6%	1.0%	.6%	100%

Note: The difference between leavers and stayers at school with more than a year was statistically significant ($Z=-1.742$, $p=0.082$). Our test of significance is the Mann-Whitney U which is a nonparametric equivalent to the t-test. This two-independent sample test procedure compares two groups of cases on one variable (i.e., teacher attrition).

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Age

Teachers in charter schools are, on average, much younger than teachers in traditional public schools. Among classroom teachers in our sample, 37 percent were under 30 years of age; 45.5 percent were in their 30s or 40s; and 17.5 percent were 50 or older.

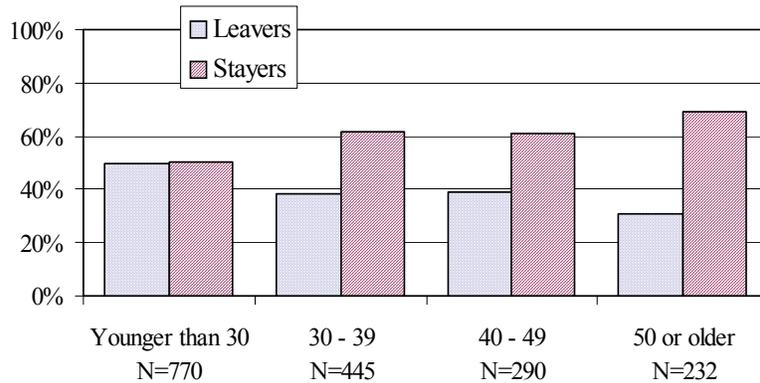


Figure 4. Distribution of Stayers and Leavers by Age of Teachers (N=1,285)

This is a notable contrast to the teaching force in traditional public schools, where only some 11 percent of the teaching force is younger than 30.¹³ Classroom teachers were also younger on average than other categories of charter school staff surveyed, including teacher assistants and key administrators.

Findings here correlate with other research on teacher attrition, which indicate that attrition is noticeably higher among younger teachers.¹⁴ Nearly half of the teachers who were younger than 30 left their charter schools in the year following our survey (see Figure 4). Because charter schools have a high concentration of younger teachers who also have the highest attrition rate, this under-30 group accounted for just over half all the teachers who left the charter schools (see Table 4).

Table 4. Distribution of Stayers and Leavers by Age

	<i>Younger Than 30</i>	<i>30 – 39</i>	<i>40 – 49</i>	<i>50 or Older</i>	<i>Total</i>
Leavers	50.2%	23.7%	15.4%	10.7%	100%
Stayers	36.9%	27.7%	17.8%	17.5%	100%

Note: The difference between leavers and stayers was statistically significant ($Z=-4.911$, $p=0.000$).

Grade Level

Teachers and staff were asked to indicate the grade with which they worked most often. Figure 5 illustrates the rate of teacher attrition by grade level. As is clearly illustrated, attrition rates are highest in the middle school grades (grades 5, 6, and 7) and peak once again at grade 10.

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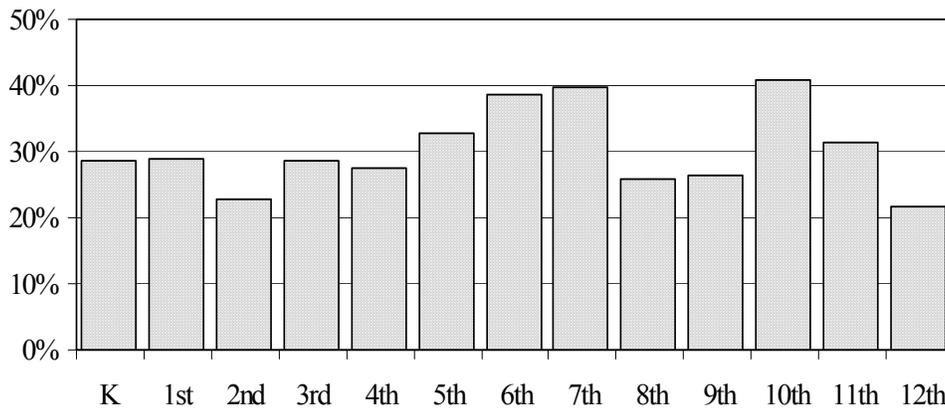


Figure 5. Attrition of Teachers by Grade Level

The literature on attrition in traditional public schools indicates that this situation is similar to that in traditional public schools, where teacher attrition is highest at the middle school levels.¹⁵

Regular or Special Education

Teacher attrition is known to be higher among special education teachers.¹⁶ One recent study¹⁷ found that half the certified special education teachers leave the field within the first five years of their career. In this study, however, attrition rates were only slightly higher for special education teachers (34.5%) than for regular education teachers (31.1%). Conditions relative to special education in charter schools, however, tend to differ significantly from those in traditional public schools. Charter schools tend to enroll fewer students with disabilities, particularly students with severe and costly-to-remediate disabilities. Given the differences in student populations, the proportion of special education teachers in charter schools and their backgrounds and qualifications are likely to vary considerably from those in traditional public schools. In fact, only 4.9 percent of all the teachers in our sample indicated that they work as special education teachers.

More than three-quarters of the regular education teachers indicated that they had at least one student with special needs in their class. Among these teachers, we explored whether the presence of students with disabilities in the classroom might be a factor behind decisions to leave a charter school. No significant differences were found.

Credentials and Years of Experience

Certification of Teachers

Of the classroom teachers in the sample, 74.2 percent reported being currently certified to teach in their states; 3.9 percent reported being certified in another state; and 18.1 percent reported working to obtain certification. Only 3.8 percent were neither certified nor working to obtain certification. Table 5 compares the stayers and leavers by certification status, a comparison that reveals a statistically significant difference between the groups. Figure 6 collapsed the four categories into either certified or non-certified and illustrates relative proportions who stayed or left their schools in the year after the survey.

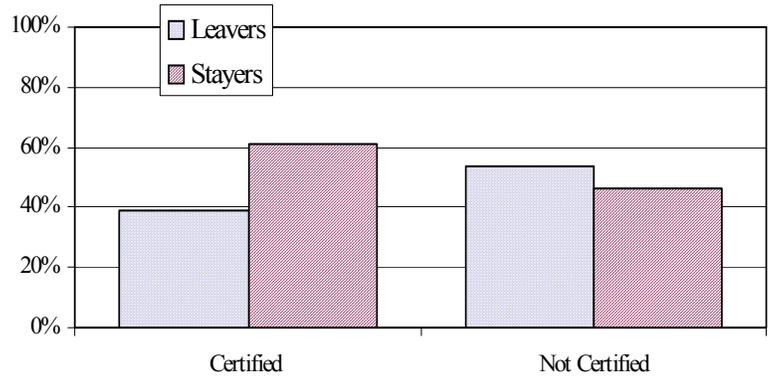


Figure 6. Distribution of Stayers and Leavers by Certification Status

Table 5. Distribution of Stayers and Leavers by Certification Status

	<i>Certified to Teach in This State (N=1,295)</i>	<i>Certified to Teach in Another State (N=68)</i>	<i>Working to Obtain Certification (N=316)</i>	<i>Not Certified and Not Working to Obtain Certification (N=67)</i>	<i>Total (N=1,746)</i>
Leavers	67.2%	5.1%	22.2%	5.5%	100%
Stayers	80.4%	2.1%	14.1%	3.4%	100%

Note: The difference between leavers and stayers was statistically significant ($Z=-5.438$, $p=0.000$).

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Of teachers surveyed, 78.3 percent indicated that they were certified in the subject they were teaching; 10 percent were not subject certified; and 11.7 percent indicated that subject certification was not applicable for their position.

As the data in Figure 7 indicate, attrition rates are higher for teachers who are not subject certified (53%) than for subject certified teachers (40%). Table 6 reflects a statistically significant difference for groups that were and were not certified in the subject they were teaching.

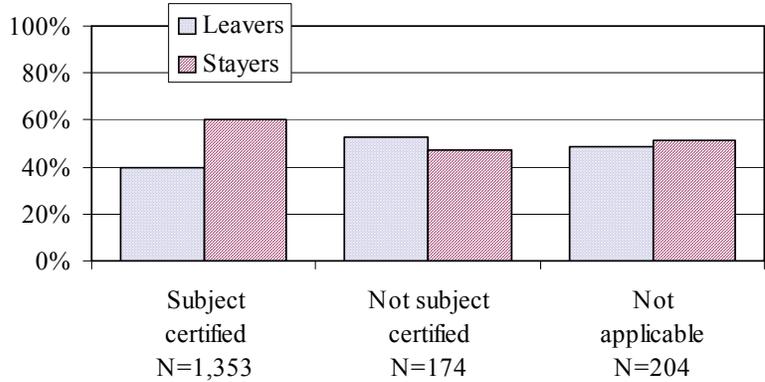


Figure 7. Distribution of Stayers and Leavers by Subject Certification Status (N=1,291)

Table 6. Distribution of Stayers and Leavers by Subject Certification

	<i>Subject Certified</i>	<i>Not Subject Certified</i>	<i>Subject Certification Not Applicable</i>	<i>Total</i>
Leavers	73.6%	13.0%	13.4%	100%
Stayers	81.1%	8.6%	10.3%	100%

Note: The difference between leavers and stayers was statistically significant ($Z=3.054$, $p=0.002$).

Formal Education and Highest College Degree

In terms of formal education, charter school staff appear to be well qualified (see Tables 7 and 8). Among all teachers in the sample: 0.9 percent had only a high school diploma; 34.6 percent had a bachelor's degree; 30.2 percent had taken some graduate courses; and, 34.3 had completed a graduate degree.

Table 7. Distribution of Stayers and Leavers by Level of Formal Education

	Complete High School	Less than 4 Years of College	Bachelor's Degree	Graduate Courses, No Degree	Graduate/Professional Degree	Total
Leavers	1.3%	1.5%	36.6%	30.1%	30.5%	100%
Stayers	0.8%	1.4%	29.9%	32.2%	35.7%	100%

Note: The difference between leavers and stayers at school with more than a year was statistically significant ($Z=-5.438$, $p=0.000$).

As the Table 8 overview of highest degree obtained indicates, around two-thirds of the teachers held a bachelor's degree, and one-third had a master's degree or higher. A breakdown according to those who stayed or left indicated that teachers with higher degrees were slightly less likely to leave their charter schools (see Figure 8). The difference between the distribution of teachers by highest degree was statistically significant between stayers and leavers.

Table 8. Distribution of Stayers and Leavers by Highest College Degree

	BA	MA	5- or 6-Year Certificate	Doctorate	Total
Leavers	68.0%	29.2%	1.9%	0.9%	100%
Stayers	63.7%	33.7%	1.8%	0.8%	100%

Note: The difference between leavers and stayers was statistically significant ($Z=-1.663$, $p=0.096$).

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One possible reason for teachers to leave is that they are simultaneously pursuing another college degree. Figure 9 illustrates the proportion of teachers seeking a new degree as well as the type of degree they were pursuing. A comparison of stayers and leavers indicated only a small and non-significant difference in the proportion of teachers pursuing additional degrees. Teachers who left the charter school were only slightly more likely to be pursuing another degree (41.1%) compared with teachers who stayed (38.4%).

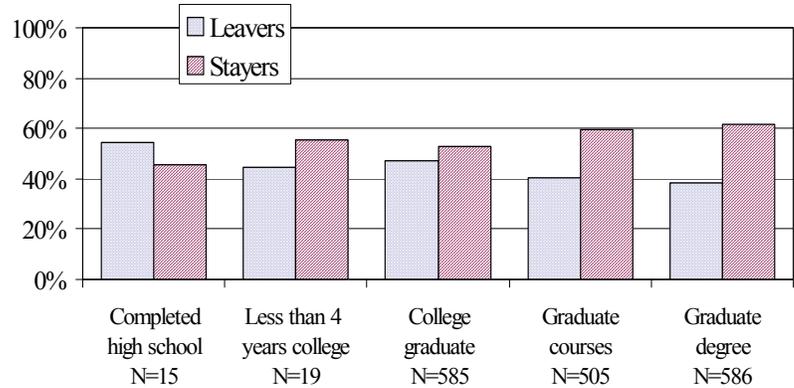
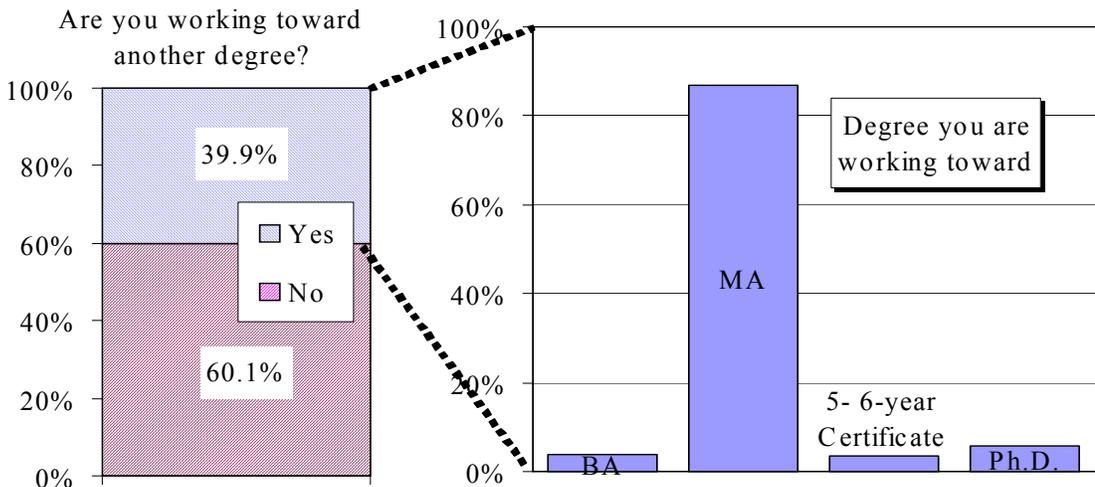


Figure 8. Distribution of Stayers and Leavers by Level of Formal Education (N=1,267)

Figure 9. Proportion of Teachers Seeking Another Degree and Type of Degree They are Pursuing



Years of Experience

Teachers in charter schools have substantially fewer years of experience than do teachers in traditional public schools.¹⁸ Most of the experience that charter school teachers had came from working in traditional public schools, with only about 24 percent of teachers' accrued experience occurring in private or parochial schools. Table 9 contains the results for stayers and leavers in terms of the type school where they acquired their teaching experience.

Table 9. Years of Experience by Role and in Various Types of School

	<u>Private</u>	<u>Parochial</u>	<u>Charter</u>	<u>Public</u>	<u>Total Years Experience</u>		<u>Years at Current School</u>	
	Mean	Mean*	Mean*	Mean	Mean*	SD	Mean*	SD
Leavers	0.50	0.65	1.84	2.75	5.73	6.36	1.78	1.10
Stayers	0.71	1.04	2.88	3.26	7.89	7.17	2.86	1.21

* Differences between leavers and stayers were statistically significant $p < .01$.

There were large differences among stayers and leavers in terms of years of experience. Teachers who left the charter schools had substantially fewer total years of experience (an average 5.73 years) than teachers who remained (an average 7.89 years). As was apparent from our state evaluations, the body of charter school teachers as a whole gradually became more qualified and more experienced with each passing year. High attrition rates, however, are slowing the growth of a highly qualified and experienced body of instructors in charter schools.

Reasons to Seek Employment at a Charter School

Stayers and leavers exhibit important differences in their reasons for choosing to teach in a charter school (see Table 10).

Two reasons were clearly dominant: the opportunity to work with like-minded educators and an interest in educational reform. Other persuasive factors included small class sizes, academic reputation, committed parents, and promises made by charter schools’ spokespersons. While teachers and staff ranked the difficulty of finding another position as the least important factor, 25.2 percent of them nevertheless agreed or strongly agreed that such difficulty was an important factor in their own choice to apply to a charter school.

Many factors that were important to teacher decision-making were related to seeking a better working environment. For example, teachers believed a charter school would offer increased safety at school, the opportunity to work with small classes, and the ability to pursue high academic standards.

Table 10. Reasons for Seeking Employment at This School

	<i>Not Important</i>			<i>Very Important</i>		<i>All Teachers</i>		<i>Leavers</i>	<i>Stayers</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>Mean</i>
Opportunity to work with like-minded educators	2.5%	3.9%	18.5%	36.9%	38.1%	4.04	0.97	3.93	4.15*
Safety at school	5.6%	7.6%	20.4%	27.4%	39.0%	3.86	1.18	3.80	3.98*
My interest in being involved in an educational reform effort	4.9%	7.2%	22.3%	34.6%	30.9%	3.79	1.11	3.68	3.87*
This school has small class sizes	7.5%	6.8%	24.6%	25.0%	36.1%	3.75	1.22	3.74	3.81
Academic reputation (high standards) of this school	8.1%	7.4%	26.6%	29.0%	28.9%	3.63	1.2	3.45	3.83*
Parents are committed	8.3%	9.2%	26.0%	29.5%	26.9%	3.57	1.21	3.56	3.62
Promises made by charter school's spokespersons	10.5%	10.3%	25.6%	30.8%	22.9%	3.45	1.24	3.46	3.54
More emphasis on academics as opposed to extracurricular activities	9.9%	8.4%	33.1%	31.1%	17.5%	3.38	1.16	3.26	3.52*
Convenient location	18.8%	14.9%	28.3%	19.5%	18.5%	3.04	1.35	3.05	3.01
Difficult to find other positions	40.2%	16.4%	18.3%	12.6%	12.6%	2.41	1.43	2.59	2.30*

* These means for leavers on these items were statistically different from means for stayers (p<0.05).

As indicated by the mean scores in Table 10, teachers who stayed in their school were less likely to stress that difficulty to find another position was a factor in their decision to work at a charter school. Instead, these stayers were more likely to emphasize:

- the opportunity to work with like-minded educators
- their interest in being involved in an education reform effort
- school safety

Charter schools offer both teachers and administrators important options for building a cohesive school community. They can offer an attractive opportunity for teachers who value working with like-minded others and being part of an education reform. And, they offer administrators and school boards—who have great flexibility in hiring and firing practices—the opportunity to build an engaged and cohesive teaching staff that shares the school’s mission.

Satisfaction with School Mission and Ability of School to Fulfill Mission

Charter schools are intended to be mission driven and to nurture focused learning communities. In theory, teachers will seek to work in charter schools whose pedagogical approach and unique mission match their interests and skills. Note that the choice premise of the charter concept assumes that teachers choose schools according to mission and that this, in turn, makes them more likely to work harder for student outcomes. This section explores such assumptions by asking: (1) How familiar are teachers and staff with the mission of their school? (2) Do teachers and staff believe the mission of their school is being met? and (3) Are charter schools able to fulfill their mission?

Only 2 percent of teachers said they were not aware of their school’s mission. Of those who indicated familiarity, 30 percent thought the mission was being followed “very well,” 41 percent “well,” 24 percent “fair,” and 5 percent “not very well.” Most then,

believed their schools were living up to their missions. As can be seen in Figure 10, teachers who remained in a school were much more likely to report that its mission was being successfully fulfilled.

Respondents also assessed their satisfaction with a number of aspects of the school, including the school’s mission statement. Here, 34.8 percent of the staff reported being “very satisfied” with the mission of their school, and another 35.3 percent indicated that they were “satisfied” with it. They were not equally convinced that their school

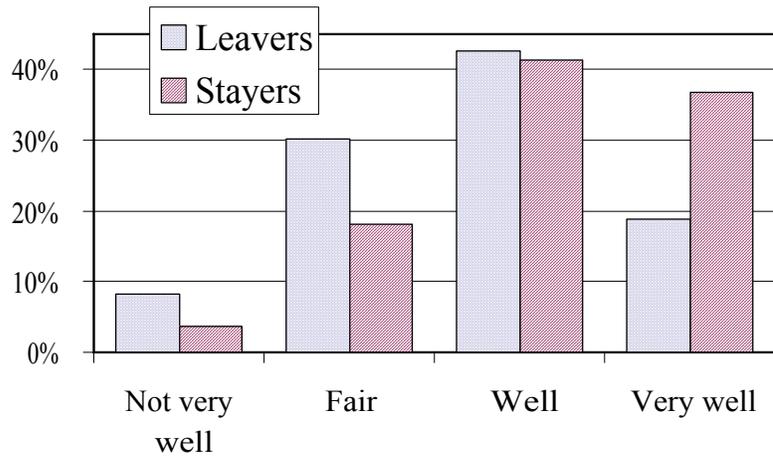


Figure 10. Perceived Extent to Which the Charter School Mission is Being Followed

Note. The difference between stayers and leavers was statistically significant ($Z=-8.018, p=.000$).

could fulfill its mission, however. Just over 17 percent of the staff indicated that they were dissatisfied or very dissatisfied with their school’s ability to fulfill its mission, and 26 percent were uncertain that their schools could fulfill their mission. Despite the doubts of more than 40 percent of the respondents, 34.5 percent believed their school could fulfill its mission, and another 21.7 percent were very convinced it could. Such doubts about a school’s potential and perceived shortfalls in its performance highlight the gaps between the “ideal school” embodied in the school mission and the “actual school” teachers describe.

Large and significant differences between stayers and leavers are evident in relation to their perceptions of mission. Stayers were much more likely to be satisfied with the school mission and much more optimistic about the ability of the school to fulfill it (see Table 11).

Table 11. Level of Satisfaction with the Mission of the School

	<i>Not Very Satisfied</i>		<i>Very Satisfied</i>			<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>p</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>				
<i>Satisfaction with the school mission statement</i>								-7.129	0.000
Leavers	61.3%	39.2%	38.7%	30.6%	23.5%	3.75	1.02		
Stayers	19.4%	32.4%	35.8%	40.3%	52.4%	4.14	0.90		
<i>Satisfaction with the ability of school to fulfill its stated mission</i>								-8.617	0.000
Leavers	51.6%	42.9%	33.3%	29.3%	19.1%	3.25	1.15		
Stayers	26.9%	30.2%	38.2%	44.2%	57.8%	3.79	1.06		

Satisfaction with Curriculum and Instruction

To determine teachers’ satisfaction with curriculum and instruction, we devised a 5-point index including items on teaching, the curriculum, staff accountability, and expectations for student performance (see Table 12). The index simply provides an average of those items, with 1 indicating greatest dissatisfaction and 5 indicating greatest satisfaction. The average value on the satisfaction with curriculum and instruction index was 3.86, indicating a fairly high level of satisfaction

Table 12. Index of Teachers’ Satisfaction With Curriculum and Instruction

	<u>All Teachers</u>		<u>Leavers</u>		<u>Stayers</u>	
	Mean	SD	Mean	SD	Mean	SD
Teachers are challenged to be effective	4.04	1.00	3.79	1.10	4.17	0.95
Teachers and school leaders are accountable for student achievement	3.97	0.91	3.80	0.94	4.10	0.88
School has high standards and expectations for students	3.96	1.05	3.74	1.07	4.12	1.00
Parents are satisfied with instruction	3.88	0.82	3.70	0.86	4.01	0.77
School is meeting students’ needs that could not be addressed in other local schools	3.76	1.11	3.49	1.14	3.93	1.09
I am satisfied with the school curriculum	3.56	1.13	3.31	1.16	3.78	1.09
Index	3.86	0.75	3.64	0.76	4.02	0.73

Cronbach’s alpha = 0.842. The difference in index scores between teachers that stayed and those that left the school was statistically significant ($t=-9.068$, $p=0.000$)

Again, differences between stayers and leavers were evident and statistically significant. Teachers leaving the charter schools were clearly not as satisfied with curriculum and instruction as were the teachers who remained.

Satisfaction with Facilities and Resources

Site visits during our diverse state evaluations of charter schools revealed that the quality of school facilities varies extensively among charter schools. Therefore, it was not surprising to see a divide in the responses from teachers, with half reporting satisfaction with their facilities and resources and the other half reporting dissatisfaction. Interestingly, the average index scores for resources showed more school-to-school variation than other indices.

Again a 5-point index was devised based on several items pertaining to satisfaction with facilities and resources. Items included questions on quality of facilities, sufficiency of resources, and access to computers and technology (see Table 13). The average value on the index of teacher satisfaction with resources was 3.28 on a 5-point scale, indicating a level of satisfaction just past the midpoint. This is, perhaps, not surprising, since charter school administrators consistently cite facilities and resources as significant barriers to effective mission implementation.

Table 13. Index of Teachers’ Satisfaction with Resources and Facilities

	All Teachers		Leavers		Stayers	
	Mean	SD	Mean	SD	Mean	SD
I am satisfied with the availability of computers and other technology	3.61	1.23	3.49	1.26	3.79	1.16
I am satisfied with school buildings and facilities	3.30	1.26	3.13	1.27	3.45	1.26
I am satisfied with resources available for instruction	3.36	1.23	3.06	1.25	3.64	1.17
The school has sufficient financial resources	3.08	1.18	2.90	1.18	3.20	1.18
The school has good physical facilities	3.02	1.32	2.93	1.31	3.11	1.34
Index	3.28	0.92	3.10	0.91	3.44	0.92

Cronbach’s alpha = 0.795. The difference in index scores between teachers that stayed and those that left the school was statistically significant ($t = -6.547, p = 0.000$)

The index indicates that teachers leaving the charter school were significantly less satisfied with resources and facilities than teachers who remained. The single item in the index with the largest difference between stayers and leavers was “satisfaction with resources available for instruction.”

Satisfaction with Salary and Benefits

A number of state studies have revealed that charter schools have lower salary scales than traditional public schools.¹⁹ One in-depth examination of cross-state data²⁰ found that while first-year teachers generally received similar salaries in charter schools and traditional public schools, teachers in traditional public schools received larger incremental increases. The outcome is that teachers in charter schools receive a lower return on experience.

This finding offers no surprise. Charter schools have been granted greater autonomy and flexibility in determining compensation for teachers and staff. Since labor is the largest cost in any school, saving on labor costs is critical for many charter schools that need to find funds to purchase or renovate facilities.

Table 14 details how the charter school teachers rated their levels of satisfaction with salary and benefits. Teachers who stayed at charter schools reported that they were much more satisfied with both salary and benefits than were the teachers who left; and, it is interesting to note that teachers were more satisfied with benefits than with the salaries. Differences between the groups were large and statistically significant.

Table 14. Level of Satisfaction with Salary and Benefits

	<i>Not Very Satisfied</i>			<i>Very Satisfied</i>		<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>p</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>				
<i>Satisfaction with salary</i>								-4.911	0.000
Leavers	15.0%	20.5%	36.8%	19.0%	8.7%	2.86	1.15		
Stayers	8.5%	17.6%	35.1%	25.5%	13.3%	3.18	1.13		
<i>Satisfaction with benefits</i>								-5.345	0.000
Leavers	13.8%	18.3%	32.7%	23.8%	11.3%	3.00	1.20		
Stayers	7.2%	13.9%	32.3%	28.7%	17.9%	3.36	1.14		

Research literature generally verifies that higher salaries are associated with lower teacher attrition and that teachers are responsive to salaries outside their districts and their profession.²¹ One study²² found that nearly half of all private school teachers who changed schools rated better salary or benefits as a being a significant factor in their decision.

Satisfaction with Administration and Governance

Charter schools have provided opportunities for a wide array of individuals and groups to start their own schools, resulting in unique and diverse types of school administrators and school boards. Our earlier work revealed conflicts between school boards and administrators to be common. Conflicts have decreased with time, in part because oversight organizations began to provide or require training for the charter school board members. Initial school administrators have also been changing over time. Many dynamic school founders discovered that running a school required a different skill set than starting a school. Also, a number of initial administrators have gradually been replaced by more experienced and credentialed personnel. These changes have resulted in large differences among schools in relation to the effectiveness of administrators and school board members.

Our survey contained two items addressing teachers’ satisfaction with administration and governance, summarized in Table 15. The frequency distributions illustrate large differences among teachers and between schools. On average, the teachers were slightly more satisfied with school administration than with school governance, but those who remained in a school were significantly more satisfied with both. This finding suggests that teachers’ satisfaction with school leadership is an important factor in teacher attrition.

Table 15. Level of Satisfaction with Administration and School Governance

	<i>Not very Satisfied</i>		<i>Very satisfied</i>			<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>p</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>				
<i>Satisfaction with administration</i>								-8.307	0.000
Leavers	15.4%	18.0%	24.9%	20.3%	21.4%	3.14	1.36		
Stayers	6.1%	10.0%	22.5%	27.0%	34.5%	3.74	1.20		
<i>Satisfaction with governance</i>								-8.484	0.000
Leavers	15.8%	19.8%	30.3%	20.4%	13.5%	2.96	1.26		
Stayers	5.8%	11.8%	28.2%	30.7%	23.5%	3.54	1.14		

Statistical Analysis of Factors in Charter School Attrition

Bookmark not defined.

To investigate factors that may explain why such high proportions of teachers are leaving their charter schools, we used sophisticated statistical methods (i.e., logistic regression) to analyze the influence of individual variables while controlling for the influence of other variables. Persons interested in technical details are referred to Appendix B for a full description of methodology and findings. The following paragraph provides a brief overview.

The strongest predictors of teacher attrition were number of years at current school and total years of experience. As the results revealed, charter schools are doing a better job at retaining teachers after they have been at the school a few years. In other words, the older a charter school teacher is, for example, the less the likelihood of leaving. Similarly, the greater the number of years a teacher stays at the charter school, the less the likelihood of leaving. Nevertheless, charter schools can be characterized as either a revolving door or as a stepping stone for new teachers, since such a high proportion of new teachers leave the profession or leave for other schools after their first year of experience at a charter school. Interestingly, while increases in such factors as age and experience reduce the chances of leaving, an increase in the grade level taught increases the odds of a teacher leaving. That is, middle school and high school teachers are significantly more likely to leave than an elementary school teacher.

Summary of Key Findings

A long list of possible factors or predictors related to teacher attrition have been examined in this report. This section highlights key findings by category.

Background characteristics of teachers

- The single background characteristic that proved a strong predictor of teacher attrition in charter schools was age: younger teachers in charter schools are more likely to leave than older teachers. Small but nonsignificant differences were found by gender and ethnic background of teacher.

Grade level and special education status

- Grade level taught was a very strong predictor of teacher attrition, with rates being highest in the upper grades, especially grades 6, 7, 10, and 11. Special education teachers were only slightly more likely to leave charter schools than regular education teachers.

Qualifications of teachers

- The teacher qualification variables that best predicted attrition were “years of experience” and “years at current school.” Teachers with limited experience were significantly more likely to leave their charter schools. (It is presumed that many of these inexperienced teachers moved to teaching jobs in other schools.)
- Attrition was higher for non-certified teachers and for teachers who were teaching outside their certification areas, a situation that may be related to the No Child Left Behind act’s pressure for ensuring teaching staff meet its definition of “highly qualified.”
- Teachers with higher levels of formal education were more likely to stay, although this factor wasn’t strongly predictive when controls for other variables were applied.

Satisfaction with school and working conditions

- Teachers’ relative satisfaction/dissatisfaction with the school’s: 1) mission, 2) perceived ability to attain the mission, and 3) administration and governance were strong and significant factors related to attrition. Generally, teachers who left or were being asked to leave were also routinely less satisfied with: curriculum and instruction; resources and facilities; and salary and benefits. It appeared that teachers who were not satisfied were leaving or were being asked to leave.

Policy Implications and Conclusion

Before examining implications of this study, a word of caution is in order. A methodological issue evident in charter school research (on teachers and teacher attrition as well as on other issues) is that data collection tends to be biased toward “stayers.” A more representative picture of teacher satisfaction would be gained by greater participation by all teachers, including those who are leaving or who have already left the school. Much research to date has solicited data only from staff who remain in the school, however, offering only a partial picture. That said, though, the high levels of attrition among charter school teachers is—by itself—an indicator of dissatisfaction: teachers are clearly voting with their feet. And, the findings of studies like this one can nevertheless be informative and useful, as detailed in the following paragraphs.

Issues of staffing are critical to charter schools. While increasing re-regulation and growing pressure from NCLB mean that charter schools are realizing far less autonomy than originally expected, they *do* maintain flexibility and autonomy in terms of staffing. Teachers in most charter schools are at-will employees, even in states that permit collective bargaining. Teachers are typically not tenured, and the school administration or governing board can readily hire and fire teachers and staff.

Representatives of charter schools have reported that such autonomy over staff is one of the most important differences between charter schools and traditional public schools. Such autonomy allows a charter school to build a cohesive and focused learning community around its mission. From this perspective, attrition should generally not be surprising or alarming. The departure of teachers who do not “buy in” to the school mission or the dismissal of ineffective teachers can be seen as “functional attrition” necessary for the development of a cohesive community.²³

Our state evaluations, however, revealed that attrition rates were persistently around or above 20 percent, which appears higher than might be expected. More alarmingly, for relatively new teachers, the attrition rate was close to 40 percent annually, markedly distant from any “functional” rate. In fact, high attrition rates are likely to be one of the most critical obstacles charter schools face. High attrition forces schools to regularly provide pre- and in-service training for new hires and makes it harder for them to build a positive and stable school climate. In addition, high attrition rates are likely to undermine the legitimacy of the schools in the eyes of consumers—namely, parents.

- *Recommendation:* Those who support charter schools would be well-advised to focus on reducing high turnover, especially for new teachers in charter schools.

Teacher Attrition in Charter Schools

Another key point is that teachers' expectations—on the whole—are not being met by charter schools. Some advocates and even some researchers have conflated teachers' reasons for choosing a charter school with conditions that actually exist in the school.²⁴ For example, some assume that if teachers say “academic reputation/high standards” were important reasons for seeking employment in charter schools, then charter schools must have good academic reputations and high standards. This study, however, revealed that while teachers report choosing charter schools for such positive reasons (for example, perceived quality and desire to work with like-minded educators), most teachers reported large and statistically significant differences between what they expected and what they were experiencing.²⁵

- *Recommendation:* Discrepancies between teachers' expectations for charter schools and those schools' realities should be identified, and strategies for narrowing the gaps should be designed and implemented.

Teachers also indicate feeling insecure about their future at their charter schools, a feeling that can be ascribed to a variety of factors. For example, insecurity might be fostered by knowledge that a school is chartered only for a limited number of years. Or, the lack of tenure or a collective bargaining unit might lead teachers to feel insecure. It is possible as well, especially given a school's autonomy in hiring and firing, that teachers fear they will not live up to the expectations of the school administration and governing board.

Given that close to 40 percent of the teachers surveyed reported feeling their positions were insecure, efforts to improve teachers' sense of security will be vital for reducing attrition rates. Improving job security will be difficult, however. The restrictive funding formulas in some states cannot guarantee a school's viability. Even more significantly, a core characteristic of charter schools is the assumption that if they are not successful they will close—and teachers are acutely aware that educational success might be a slower process than politicians and policymakers might wish. Still, the issue should not be ignored.

- *Recommendation:* Efforts should be made to make teachers feel as secure as possible in charter schools.

There is much to build on in charter schools, but weaknesses identified in this study need to be addressed. Our data indicate that teachers are generally very satisfied with their charter schools and their school's mission. Most think they have enough professional autonomy, although not as much as they had initially expected. Teachers also were generally optimistic about their schools, even when expressing concern about their own job security. This picture, however, lacks the perspective of masses of teachers who had already left charter schools.²⁶ Although

Teacher Attrition in Charter Schools

responses from stayers suggest all is well, attrition rates tell another story and suggest substantive frustration with working conditions and dissatisfaction with salaries, benefits, administration, and governance.

- *Recommendation:* Efforts should be made to increase teachers' satisfaction with working conditions, salaries, benefits, administration, and governance.

The erosion of the teaching force each year indicates that many charter schools are going to have an especially hard time building professional learning communities that can make a difference in the education of children. Therefore, the high attrition rates for teachers in charter schools constitute one of the greatest obstacles that will need to be overcome if the charter school reform is to deliver as promised.

Appendix A

Comparisons Between Leavers, Stayers with One Year at School, and Stayers with More Than One Year at School

Distribution of Stayers and Leavers by Race/Ethnicity

	<i>White</i>	<i>African American</i>	<i>Hispanic</i>	<i>Asian or Pacific Islander</i>	<i>Native American Indian</i>	<i>Total</i>
Leavers	71.3%	23.8%	3.4%	1.1%	.4%	100%
Stayers: only one year at current school	75.8%	15.1%	6.3%	2.5%	.2%	100%
Stayers: more than one year at current school	75.8%	20.1%	2.6%	1.0%	.6%	100%

Distribution of Stayers and Leavers by Age

	<i>Younger Than 30 (N=770)</i>	<i>30 – 39 (N=445)</i>	<i>40 – 49 (N=290)</i>	<i>50 or Older (N=232)</i>	<i>Total (N=1737)</i>
Leavers	50.2%	23.7%	15.4%	10.7%	100%
Stayers: only one year at current school	48.3%	24.7%	16.8%	10.2%	100%
Stayers: more than one year at current school	36.9%	27.7%	17.8%	17.5%	100%

Distribution of Stayers and Leavers by Certification Status

	<i>Certified to Teach in This State (N=1,295)</i>	<i>Certified to Teach in Another State (N=68)</i>	<i>Working to Obtain Certification (N=316)</i>	<i>Not Certified and Not Working to Obtain Certification (N=67)</i>	<i>Total (N=1,746)</i>
Leavers	67.2%	5.1%	22.2%	5.5%	100%
Stayers: only one year at current school	71.9%	5.0%	19.5%	3.5%	100%
Stayers: more than one year at current school	80.4%	2.1%	14.1%	3.4%	100%

Note. The number of leavers in the data set=535, number of stayers with only one year at current school=445, and number of stayers with more than one year at current school =732.

Teacher Attrition in Charter Schools

Distribution of Stayers and Leavers by Subject Certification

	<i>Subject Certified</i>	<i>Not Subject Certified</i>	<i>Subject Certification Not Applicable</i>	<i>Total</i>
Leavers	73.6%	13.0%	13.4%	100%
Stayers: only one year at current school	78.3%	8.9%	12.9%	100%
Stayers: more than one year at current school	81.1%	8.6%	10.3%	100%

Distribution of Stayers and Leavers by Level of Formal Education

	<i>Completed High School</i>	<i>Less than 4 Years of College</i>	<i>Bachelors Degree</i>	<i>Graduate Courses, No Degree</i>	<i>Graduate/ Professional Degree</i>	<i>Total</i>
Leavers	1.3%	1.5%	36.6%	30.1%	30.5%	100%
Stayers: only one year at current school	0.4%	0.7%	38.0%	23.6%	37.3%	100%
Stayers: more than one year at current school	0.8%	1.4%	29.9%	32.2%	35.7%	100%

Distribution of Stayers and Leavers by Highest College Degree

	<i>BA</i>	<i>MA</i>	<i>5- or 6-Year Certificate</i>	<i>Doctorate</i>	<i>Total</i>
Leavers	68.0%	29.2%	1.9%	0.9%	100%
Stayers: only one year at current school	64.8%	32.6%	.9%	1.8%	100%
Stayers (with more than one year at current school)	63.7%	33.7%	1.8%	0.8%	100%

Years of Experience by Role and in Various Types of School

	<i>Private</i>	<i>Parochial</i>	<i>Charter</i>	<i>Public</i>	<i>Total Years of Experience</i>		<i>Years at Current School</i>	
	Mean	Mean	Mean	Mean	Mean	SD	Mean	SD
Leavers	0.50	0.65	1.84	2.75	5.73	6.36	1.78	1.10
Stayers: only one year at current school	0.53	0.85	1.05	3.16	5.60	6.64	1.00	0.00
Stayers: more than one year at current school	0.71	1.04	2.88	3.26	7.89	7.17	2.86	1.21

Teacher Attrition in Charter Schools

Level of Satisfaction with the Mission of the School

	<i>Not Very Satisfied</i>			<i>Very Satisfied</i>		<i>Mean</i>	<i>SD</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>		
<i>Satisfaction with school mission statement</i>							
Leavers	61.3%	39.2%	38.7%	30.6%	23.5%	3.75	1.02
Stayers: only one year at current school	19.4%	28.4%	25.5%	29.1%	24.0%		
Stayers: more than one year at current school	19.4%	32.4%	35.8%	40.3%	52.4%	4.14	0.90
<i>Satisfaction with the ability of school to fulfill its stated mission</i>							
Leavers	51.6%	42.9%	33.3%	29.3%	19.1%	3.25	1.15
Stayers: only one year at current school	21.5%	26.8%	28.5%	26.6%	23.1%		
Stayers: more than one year at current school	26.9%	30.2%	38.2%	44.2%	57.8%	3.79	1.06

Level of Satisfaction with Salary and Benefits

	<i>Not Very Satisfied</i>			<i>Very Satisfied</i>		<i>Mean</i>	<i>SD</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>		
<i>Satisfaction with Salary</i>							
Leavers	15.0%	20.5%	36.8%	19.0%	8.7%	2.86	1.15
Stayers: only one year at current school	8.4%	18.0%	39.6%	24.8%	9.2%		
Stayers: more than one year at current school	8.5%	17.6%	35.1%	25.5%	13.3%	3.18	1.13
<i>Satisfaction with Benefits</i>							
Leavers	13.8%	18.3%	32.7%	23.8%	11.3%	3.00	1.20
Stayers: only one year at current school	8.1%	16.7%	31.3%	30.6%	13.2%		
Stayers: more than one year at current school	7.2%	13.9%	32.3%	28.7%	17.9%	3.36	1.14

Teacher Attrition in Charter Schools

Level of Satisfaction with Administration and School Governance

	<i>Not Very Satisfied</i>			<i>Very Satisfied</i>		<i>Mean</i>	<i>SD</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>		
<i>Satisfaction with administration</i>							
Leavers	15.4%	18.0%	24.9%	20.3%	21.4%	3.14	1.36
Stayers: only one year at current school	9.2%	11.2%	21.3%	29.0%	29.2%	3.58	1.27
Stayers: more than one year at current school	6.1%	10.0%	22.5%	27.0%	34.5%	3.74	1.20
<i>Satisfaction with governance</i>							
Leavers	15.8%	19.8%	30.3%	20.4%	13.5%	2.96	1.26
Stayers: only one year at current school	9.2%	12.9%	31.5%	27.8%	18.6%	3.34	1.19
Stayers: with more than one year at current school	5.8%	11.8%	28.2%	30.7%	23.5%	3.54	1.14

Appendix B

Statistical Analysis of Factors in Charter School Attrition

To investigate factors that may explain why such high proportions of teachers are leaving their charter schools, we used logistic regression to examine the influence of a variety of mediating variables on the likelihood that a teacher would leave their charter school. Logistic regression is particularly well suited for examining this type of evaluative question due to the binomial (dichotomous) outcome variable and mixture of nominal and continuous predictor variables. For our initial model, we coded teachers as leavers (=1) if they left the charter school during the year after they had completed the survey. Stayers (=0) were teachers who remained at the school and had more than one year of experience at the time of the survey.

Our initial model considered several possible predictors. Summary statistics are presented in Table B1 below ($N=1,180$), and the initial model estimates are in Table B2.

Teacher Attrition in Charter Schools

Table B1. Descriptive Statistics for the Logistic Model Predicting Teacher Attrition

<i>Variable</i>	<i>Label</i>	<i>Mean</i>	<i>SD</i>
role	Role, where 1=regular ed. teacher, and 2=special ed. teacher	1.08	0.38
state	State, where 1=DE, 2=PA, 3=OH, 4=CT, and 5=IL	1.96	0.59
sex	Gender, where 0=male and 1=female	0.75	0.43
age	Age, where 1=<20 years, 2=20-29, 3=30-39, 4=40-49, and 5=50 or older	3.03	1.08
black	Black =1, White= 0	0.22	0.41
hispanic	Hispanic = 1, White = 0	0.03	0.17
grade_level	Grade level with which teacher works most, where 1 = K - 5, 2 = 6 - 8 and 3 = 9 - 12 th grade	1.83	0.84
edlevel	Amount of formal education, where 1=did not complete high school, 2=high school diploma, 3=less than 4 years of college, 4=4 year degree, 5=graduate courses, 6=graduate/professional degree	4.95	0.88
degree	Highest college degree, where 1=BA, 2=MA, 3=5- or 6-yr certificate, 4=Ph.D.	1.37	0.57
certification	Current certification, where 1=certified, 0=not certified	0.79	0.41
subject_cert	Teaching in a subject area in which teacher is certified	1.31	0.65
years_total	Total years' experience as teacher	6.98	6.84
years_current	Years at current school	2.42	1.29
salary	Satisfaction with salary, where 1=Very dissatisfied and 5=Very satisfied	3.04	1.14
benefits	Satisfaction with benefit, where 1=Very dissatisfied and 5=Very satisfied	3.20	1.15
satis_mission	Satisfaction with the school mission, where 1=Very dissatisfied and 5=Very satisfied	2.46	0.43
satis_cur_inst	Satisfaction with curriculum and instruction, where 1=Very dissatisfied and 5=Very satisfied	3.87	0.77
satis_admin_gov	Satisfaction with administration and governance where 1=Very dissatisfied and 5=Very satisfied	3.39	1.20
satis_resources	Satisfaction with resources and facilities, where 1=Very dissatisfied and 5=Very satisfied	3.31	0.99

Note that the last 4 indicators are actually indices that are comprised of several related items on the teacher questionnaire.

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Due to the relatively high number of potential predictor variables, a stepwise logistic regression was also conducted with SLentry and SLstay options set at 0.10. Essentially, this included only the strongest variables that could predict whether or not teachers would leave their charter schools. Table B3 presents the summary findings, and Table B4 presents odds ratios with 95 percent confidence intervals.

Table B2. General Statistics from Logistic Regression, All Predictors Considered

<i>Parameter</i>	<i>DF</i>	<i>Estimate</i>	<i>Standard Error</i>	<i>Wald Chi-Square</i>	<i>p-value</i>	<i>Standardized Estimate</i>	<i>OR</i>
Intercept	1	5.3512	0.8329	41.2813	<.0001		
Role	1	0.1113	0.1765	0.3976	0.5283	0.0235	1.118
State	1	-0.0051	0.1248	0.0017	0.9675	-0.0017	0.995
Sex	1	-0.0195	0.1735	0.0127	0.9104	-0.0046	0.981
Age	1	-0.1254	0.0841	2.2231	0.1360	-0.0752	0.882
Black	1	0.2058	0.1901	1.1714	0.2791	0.0468	1.228
Hispanic	1	-0.0257	0.4213	0.0037	0.9513	-0.0023	0.975
grade_level	1	0.2629	0.0910	8.3514	0.0039	0.1213	1.301
edlevel	1	-0.1164	0.1084	1.1539	0.2827	-0.0565	0.890
degree	1	0.1301	0.1746	0.5555	0.4561	0.0407	1.139
certification	1	-0.4332	0.2375	3.3263	0.0682	-0.0975	0.648
subject_cert	1	-0.1550	0.1319	1.3799	0.2401	-0.0556	0.856
total_years	1	-0.0053	0.0135	0.1533	0.6954	-0.0200	0.995
years_current	1	-1.0237	0.0858	142.4846	<.0001	-0.7274	0.359
salary	1	-0.0272	0.0723	0.1413	0.7070	-0.0170	0.973
benefits	1	-0.0710	0.0708	1.0043	0.3163	-0.0451	0.931
satis_mission	1	-0.5309	0.2380	4.9735	0.0257	-0.1269	0.588
satis_cur_inst	1	-0.0137	0.1427	0.0092	0.9235	-0.00585	0.986
satis_admin_gov	1	-0.2554	0.0877	8.4746	0.0036	-0.1686	0.775
satis_resources	1	-0.0454	0.0863	0.2767	0.5989	-0.0248	0.956

As can be seen from Tables B3 and B4, all six variables retained in the final model reached conventional levels of statistical significance.²⁷ Interpretation of odds ratio (OR) statistics is straightforward. A value of

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1.00 represents equal odds for staying or leaving for a specific predictor variable. An OR greater than one indicates that the odds for leaving increase as the value on that predictor increases. Thus, an OR = 2.0 would indicate that the odds of leaving would increase by a factor of two (2 times) for every unit increase in the predictor variable value (denoting a risk factor for leaving). An OR = .50 would mean the odds are half as likely the teacher would leave (this denotes a protective factor or a factor that schools might wish to improve in order to increase retention).²⁸

Table B3. Limited Model Tested with Stepwise Logistic Regression

<i>Parameter</i>	<i>DF</i>	<i>Estimate</i>	<i>Standard Error</i>	<i>Wald Chi-Square</i>	<i>p-value</i>	<i>Standardized Estimate</i>
Intercept	1	4.6604	0.5046	85.3096	<.0001	
grade_level	1	0.2522	0.0805	8.7929	0.0030	0.1163
age	1	-0.1459	0.0657	4.9341	0.0263	-0.0875
satis_admin_gov	1	-0.2893	0.0763	14.3813	0.0001	-0.1910
certification	1	-0.4094	0.1697	5.8193	0.0159	-0.0921
satis_mission	1	-0.5849	0.2110	7.6878	0.0056	-0.1398
years_current	1	-1.0250	0.0833	151.4012	<.0001	-0.7283

Table B4. Odds Ratios and Confidence Intervals

<i>Effect</i>	<i>Odds Ratio</i>	<i>LB</i>	<i>95% Wald Confidence Limits</i>	<i>UB</i>
grade_level	1.287	1.089		1.520
age	0.864	0.760		0.983
satis_admin_gov	0.749	0.645		0.870
certification	0.664	0.476		0.926
satis_mission	0.557	0.368		0.842
years_current	0.359	0.305		0.422

What is interesting about this analysis is that all but one of the predictor variables (grade level) acted as protective factors with ORs less than one (see Table B4). For example, the OR for age of the teacher is .86. This is

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interpreted as a protective factor (i.e., an OR < 1.0), such that for every year older a teacher is, there is a decrease in the odds of leaving by about 14 percent. For every two years in age, the OR increases to .747, representing essentially a 25 percent decrease in the odds of leaving. The strongest protective factor was years at the current school, OR = .359. This OR indicates that for every additional year a teacher stays at the charter school, he or she is more than 64 percent less likely to leave (about 2.8 times less likely to leave) than a teacher with only one year at the charter school.

The only risk factor identified was grade level. From Table B4 it can be seen that this variable has an OR = 1.287 which indicates that there is an associated increase in leaving from elementary to middle to high school. Specifically, there is an increase in the odds of leaving—on average—by about 1.3 for each increment in grade level taught.²⁹

Notes and References

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- ⁴ See, e.g., Mintrom, M. (2000). *Leveraging local innovations: The case of Michigan's charter schools*. East Lansing MI: Michigan State University.
- ⁵ Ingersoll, R. M. (2001). Teacher turnover and teacher shortages: An organizational analysis. *American Educational Research Journal*, 38(3), 499-534.
- ⁶ Note that the 1999-00 sample was used for Illinois since the attrition rate dropped substantially in the following year. Therefore, if we used the 2000-02 Illinois sample we would have had a dozen more teachers in the study, but the number of "leavers" would have dropped substantially.
- ⁷ Based on one year of data from Delaware we were able to track teachers after leaving the charter schools and found that close to one-third of them had moved to a traditional public school.
- ⁸ Ingersoll, R. M. (2001). Teacher turnover and teacher shortages: An organizational analysis. *American Educational Research Journal*, 38(3), 499-534
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- ²³ Some of our findings support this notion. For example, attrition was lower for teachers who sought to teach in charter schools because of their desire to be part of an education reform effort or to work with like-minded educators.
- ²⁴ Finn, C. E., Manno, B., & Vanourek, G. (2000). *Charter schools in action: Renewing public education*. Princeton, NJ: Princeton University Press.
- ²⁵ The teacher surveys we administered included a number of items that asked teachers to rate and contrast “initial expectations” with “current experience.” Across all aspects of the schools, the differences teachers reported between what they expected and what they were experiencing were statistically significant. These findings are described and explained in the reports from our state evaluations. See references for these reports in endnote #2.
- ²⁶ Although we had high response rates each year, typically 10- 20 percent of the sampled teachers did not complete and return a survey. Our examination of nonrespondents revealed that they were much more likely to not return the next year.
- ²⁷ The overall model was significantly better than the null model (a model with no predictors), Wald Chi-square = 218.0981, $p < .0001$, Nagelkerke $R^2 = .343$.
- ²⁸ Conventional practice places a 95 percent confidence interval (CI) around the OR estimate. If the CI includes 1.0 the OR is typically not considered statistically significant, although the OR still indicates the effect of each predictor in the logistic model.
- ²⁹ The odds of leaving for a high school teacher are 1.656 times that of an elementary school teacher.