Teacher attrition in relation to comparable professions: Evidence from a repeated cross-sectional design

Thomas Goldring*

October 2018

Abstract

Is the national rate of teacher attrition in the U.S. higher than expected? In this paper I extend prior research on teacher attrition by conducting a repeated cross-sectional analysis of teacher attrition in relation to arguably similar vocational professions, including nursing, social work, and accounting. I find that the national rate of teacher attrition has remained strikingly stable over time at around 8 percent and exhibits less variation than comparable professions. Teachers and nurses share similar rates of attrition. A decline in the labor force leaver rate among older teachers approaching retirement explains a small decrease in the overall attrition rate between 2001 and 2018.

Keywords: Teacher attrition; repeated cross-sectional design; descriptive statistics

JEL classification: I21; I28

*University of Michigan, Gerald R. Ford School of Public Policy, 735 S State St, Ann Arbor, MI 48109, United States. E-mail address: thgold@umich.edu.

1 Introduction

High rates of teacher attrition impose considerable financial and educational costs on school districts.[1] Substantial hiring costs (Milanowski and Odden 2007), an influx of novice teachers, and the potential attendant harm to student achievement (Ronfeldt et al. 2013) burden districts, although the costs may be mitigated somewhat if less effective teachers leave the teaching force (Adnot et al. 2017; Boyd et al. 2011; Goldhaber et al. 2011). Given the potential negative impacts, an important unresolved question is whether the rate of teacher attrition in the United States is higher than expected, particularly in relation to similar vocational professions.[2] Using pooled data from the Current Population Survey (CPS) between 1992 and 2001, Harris and Adams (2007) estimate that almost 8 percent of teachers leave their jobs each year, a figure comparable to the attrition rate for nurses. It is unclear, however, whether the similar attrition rate between teachers and nurses persisted after 2001.[3]

In what follows, I extend the analysis of teacher attrition in Harris and Adams (2007) using repeated cross-sectional data from the CPS. Specifically, I construct ten-year moving averages of attrition rates for teachers, nurses, social workers, and accountants using data from 1992 to 2018. Teacher attrition was 8.0 percent in 2001 and fell to 7.6 percent by 2018. I find that teacher attrition has remained strikingly stable over time and exhibits less variation than comparable professions.[4] This finding is robust to shortening the window of pooled data. Unemployment increased as a share of overall attrition, albeit from a small base, while exiting the labor force and switching to a new profession fell over time. I find that a well-established U-shaped relationship between teacher age and attrition persists over time, but becomes flatter at older ages as fewer teachers leave the labor force. The

[1] Throughout this paper I use the term 'teacher attrition' to refer to teachers who leave the labor force, switch to a new profession, or become unemployed. I avoid using the term 'teacher turnover' because it commonly includes teachers who move *within* the teaching profession, and this group of teachers is excluded from my analysis.

[2] Studies comparing teacher attrition to other professions include Harris and Adams (2007), Ingersoll (2001a,b), Stinebrickner (2002), and Henke and Zahn (2001).

[3] I refer to pooled CPS samples by the final year of pooled data.

[4] Teacher attrition rates in the CPS are consistent with recent estimates from the Teacher Follow-Up Survey, which estimates the rate of teachers who leave the profession at 8.4 percent in 2005 and 7.7 percent in 2013 (Goldring et al. 2014).

decline in the attrition rate among older teachers approaching retirement largely accounts for the 0.4 percentage point fall in overall attrition between 2001 and 2018.

The paper is organized as follows: Section 2 describes the data and methodology used in this study, Section 3 presents and discusses the results, and Section 4 concludes.

2 Data and Methodology

I use data from the Annual Social and Economic Supplement (ASEC) of the Current Population Survey, a nationally representative survey of the U.S. population, from 1992 to 2018.[5] In addition to basic demographic information, ASEC respondents are asked for their job/occupation last week and the longest job held in the prior year. I use occupation last year to identify teachers, nurses, social workers, and accountants, and identify attrition through differences in last year's and last week's stated occupation (Harris and Adams 2007).[6] Nurses, social workers, and accountants are selected as comparison professions because they share certain characteristics with teaching; nursing and social work, for example, are, like teaching, vocational professions with a caregiving aspect to the job. Moreover, the same professions are used by Harris and Adams (2007), permitting a longitudinal comparison with their earlier results.

I pool CPS samples over 10 years to create a sample of sufficient size to construct attrition rates for specific occupations. Overall attrition may be separated into three distinct types: (i) teachers who leave for a job in a different occupation, (ii) teachers who become unemployed, or (iii) teachers who leave the labor force. To calculate moving averages, repeated cross-sectional samples are constructed by dropping the first year of the pooled sample and adding a subsequent year of data, maintaining a 10-year sample window. I restrict samples to college graduates between 21 and 64 years old and apply individual weights to make nationally representative inferences.[7]

Table 1 presents descriptive statistics by profession for the earliest pooled sample,

[5] I use data from IPUMS CPS (Flood et al. 2018).

[6] Appendix Table A1 shows the CPS occupation code definitions of all four professions over time. Teachers include public and private school teachers.

[7] College graduates differ from non-graduates by their outside option for employment, which may affect the attrition rate.

which uses data from 1992 to 2001, and the most recent sample, with data from 2009-2018.[8] Two trends stand out. First, teacher attrition fell from 8.0 percent in the earliest sample to 7.6 percent in the most recent sample, but attrition fell by over one percentage point in the three comparison professions. Second, nurses and social workers remain germane comparison professions, sharing similar demographic and job-related characteristics in the most recent sample. Accountants are less female, tend to work in smaller organizations, and are less likely to be enrolled in a pension plan than teachers.

3 Results

Figure 1 shows attrition rates (all separators) for teachers and other professionals.[9] The point estimates are moving averages from CPS samples pooled over 10 years. The rate of teacher attrition is strikingly stable over time at around 8 percent, peaking at 8.3 percent in 2006 and thereafter trending downward to 7.6 percent in 2018. Appendix Figure A1 shows that pooling samples over a shorter, five-year window introduces additional noise into the estimates of teacher attrition but the overall trend remains flat with little variation. Attrition rates for teachers, nurses, and accountants are almost identical in 2001 but the rate of attrition for nurses and then accountants diverge from teachers by 1 to 2 percentage points; in the most recent sample, attrition for nurses and accountants is around a half and a full percentage point lower than teachers, respectively. Attrition for social workers is higher than the other comparison professions and exhibits considerably more variation over time, falling by over 3 percentage points through 2012 before rising in recent years.

Figure 2 shows moving averages over time by separation type: leaving the labor force, switching to a new profession, or becoming unemployed. The black line, which shows the attrition rate for all separators, replicates the teacher attrition rate shown in Figure 1. Among separation types in 2018, a little over half of overall attrition (55 percent) is due to teachers leaving the labor force, which includes retirement. Around a quarter of attrition (29 percent) is due to teachers switching to a new profession, and the remaining

[8] Descriptive statistics for the pooled sample from 1992 to 2001 essentially replicates Table 1 in Harris and Adams (2007). The increase in the sample size compared to Harris and Adams (2007) is due to the inclusion of the SCHIP oversample in 2001; there is no difference in the overall pattern of results.

[9] Graphs use the blindschemes package in Stata by Bischof (2017).

teachers become unemployed. As a share of overall attrition, leaving the labor force fell by 4 percentage points from 2001 to 2018 and switching to a new profession fell by 3 percentage points, while unemployment almost doubled from 8 percent to 15 percent.

Teacher attrition measured at the national level masks significant heterogeneity at lower levels of geography, such as by school, district, or state (Papay et al. 2017). Although the sample size of the ASEC precludes a fine grain analysis of attrition, in Figure 3 I examine attrition by the four census regions. Variation in the attrition rate across the four regions has narrowed in recent years from a range of 1.8 percentage points in 2004 to just 0.5 percentage points in 2015, before widening to 1.2 percentage points in 2018. The west census region generally has the highest rate of teacher attrition and the midwest the lowest, although since 2016 the northeast dipped below the west. Attrition in the south has remained fairly stable at around 8 percent.

It is informative to consider which of the demographic and job-related characteristics in Table 1 are significantly associated with teacher attrition, and within that group, which characteristics are larger in magnitude relative to the comparison professions. Letting X_i be a vector of the demographic and job-related covariates shown in Table 1 for person i, I estimate the following linear probability model using data for the full pooled sample (1992 to 2018):

$$Attrition_i = \alpha + \rho Teacher_i + X_i^{'}\lambda + (Teacher_i X_i)^{'}\delta + \epsilon_i, \tag{1}$$

where $Attrition_i$ is an indicator for leaving an occupation, $Teacher_i$ is an indicator for being a teacher, $Teacher_i X_i$ is an interaction term, and ϵ_i is an idiosyncratic error term. I estimate the model separately by the comparison professions, with teachers included in all models.

The coefficients in Table 2, $\hat{\lambda}$, measure the association between the covariates and attrition. The asterisks show the statistical significance of the estimated coefficients in $\hat{\delta}$, the difference between the estimated effects for teachers and the comparison professions. Teacher age and enrollment in a pension plan are associated with attrition with a larger magnitude than comparable professions, similar to Harris and Adams (2007), but over a longer time period.

Figure 4 analyzes the age-attrition relationship for teachers by plotting attrition by age

groups for two time periods: 1992-2001 and 2009-2018. There is a U-shaped relationship between age group and attrition, with those approaching retirement age most likely to leave the teaching profession.[10] The steep attrition gradient among older teachers is driven by those leaving the labor force (see Panel B), including retirements, while younger teachers who leave the profession tend to switch to a new occupation (Panel C).

The decline in the attrition rate for all separators from 8.0 percent in 2001 to 7.6 percent in 2018 is accounted for by falling rates of attrition for older teachers (those above 55 years old) and a smaller drop among early-career teachers aged between 30 and 34, displayed in Figure 4, Panel A. Other age groups show no change in the overall attrition rate over time.[11] I further investigate the declining rate of attrition for older teachers in Figure 5, which breaks out by gender the attrition rate for all seperators (Panels A and B) and attrition caused by leaving the labor force (Panels C and D). The graph in Panel D shows that the attrition rate for male teachers aged 60-64 fell by 16 percentage points between 2001 and 2018; for women, the drop was only 6 percentage points (Panel C).[12] The combined effects were 9 percentage point decreases both in teachers leaving the labor force and those leaving the profession for any reason (shown in Figure 4, Panels B and A respectively).[13]

The estimated coefficients in Table 2 show an association between age and attrition not only for teachers but also for the other professions. In Figure 6 I analyze whether nurses, social workers, and accountants share a similar age-attrition relationship to teachers. None of the comparison professions exhibit the same U-shaped relationship between age group and attrition as teachers. Higher attrition rates for the youngest age groups is common to teachers and social workers but not for nurses and accountants. Nurses, however, share with teachers declining attrition rates among older workers, whereas there is no statistically significant change over time in the rate of attrition by age group for social

[10]The U-shaped relationship between age and teacher attrition is well-established; see, for example, Harris and Adams (2007), Ingersoll (2001a), and Grissmer and Kirby (1992).

[11]To determine which age groups have a statistically significant change in attrition over time, I regress attrition on age group indicators and interaction terms between the age group indicators and an indicator for the most recent sample, with no intercept term. I restrict the analysis sample years to 1992 to 2001 and 2009 to 2018. There is a statistically significant decrease in the attrition rate between 2001 and 2018 for those aged 60-64 (p<0.01), 55-59 (p=0.023), and 30-34 (p<0.01). No other age group has significantly different attrition between 2001 and 2018 at the 5 percent level.

[12]The drop was statistically signficant for men (p<0.01) and women (p=0.030).

[13]Teachers were 76 percent female in the 2009-2018 pooled sample, and the 9 percentage point overall decrease is a weighted average of the declines for women and men.

workers or accountants.[14]

It is instructive to consider how the comparative evidence on the age-attrition relationship for teachers and nurses conforms to the existing literature. A recent study by Auerbach et al. (2014) finds that nurses are delaying retirement and Maestas and Zissimopoulos (2010) report Bureau of Labor Statistics projections showing marked rises in labor force participation rates over the last 30 years, particularly for women aged 55-64. But, to date, there is little evidence that teachers specifically are remaining in the labor force longer. Fitzpatrick (2018) finds that older college-educated women who ever worked as teachers experience lower increases in labor force participation than women who never taught, primarily because defined-benefit pension schemes common to the teaching profession incentize teachers to retire earlier than Social Security. Her analysis is consistent with lower attrition over time in that older teachers aged 60-64 in the most recent birth cohorts (born 1946-1950) are employed at higher rates than earlier cohorts, although the increase is less than other college educated women.

4 Conclusion

The question of whether the national rate of teacher attrition in the U.S. is higher than expected is important for the design of teacher hiring and retention policies. In this paper I use a repeated cross-sectional design with data from the CPS to compare rates of attrition among teachers, nurses, social workers, and accountants. I find that (i) teacher attrition is strikingly stable over time at around 8 percent, (ii) nurses and accountants have similar rates of attrition as teachers, albeit with additional variation over time, (iii) slightly fewer teachers are exiting the labor force or switching to a new profession, while unemployment is a larger fraction of overall attrition, and (iv) the U-shaped age-attrition relationship is becoming flatter at older ages as fewer teachers leave the labor force; a similar pattern holds for nurses. One limitation of using cross-sectional samples from the CPS is an inability to track teachers longitudinally, which curtails a comparative analysis of attrition by years of experience across professions. Attrition rates in this paper are similar to those

[14]The 8 percentage point decrease in the attrition rate for nurses aged 60-64 is significant at the 5 percent level (p=0.040).

from the Teacher Follow-Up Survey, which employs a longitudinal design, suggesting that estimates of attrition rates from the CPS are accurate.

There is little doubt that teacher attrition can have pernicious effects on student achievement and burden districts with substantial hiring costs. Yet at the aggregate level, the long-term stability of the attrition rate around 8 percent suggests that attrition may be a feature of the teacher labor market impervious to large-scale reform. A case in point is the No Child Left Behind Act: Despite widespread concern that a culture of assessments and increased accountability may dissatisfy teachers to the point of leaving the profession, rigorous evidence finds no effect on voluntary teacher attrition (Sun et al. 2016). A more promising approach is to target resources towards cases of chronic attrition in districts with high numbers of high-needs students, those most likely to be negatively affected by teacher churn. Recent evidence from 16 urban school districts finds substantial cross-district variation in teacher retention rates (Papay et al. 2017), underscoring the need for context-dependent policies that adapt to localized teacher labor markets to reduce harmful teacher attrition.[15]

Acknowledgments

I thank Manas Vemuri for excellent research assistance.

References

Adnot, Melinda, Thomas Dee, Veronica Katz, and James Wyckoff. 2017. "Teacher turnover, teacher quality, and student achievement in DCPS." *Educational Evaluation and Policy Analysis*, 39(1): 54–76.

Auerbach, David I, Peter I Buerhaus, and Douglas O Staiger. 2014. "Registered nurses are delaying retirement, a shift that has contributed to recent growth in the nurse workforce." *Health Affairs*, 33(8): 1474–1480.

[15]See Kraft et al. (2016) for an insightful discussion of how school organizational contexts, including school leadership, academic expectations, teacher relationships, and school safety, are causally associated with teacher attrition and student achievement in New York City.

Bischof, Daniel. 2017. "New graphic schemes for Stata: plotplain and plottig." *The Stata Journal*, 17(3): 748–759.

Boyd, Donald, Pam Grossman, Marsha Ing, Hamilton Lankford, Susanna Loeb, and James Wyckoff. 2011. "The influence of school administrators on teacher retention decisions." *American Educational Research Journal*, 48(2): 303–333.

Fitzpatrick, Maria D. 2018. "Teaching, teachers' pensions, and retirement across recent cohorts of college-graduate women." In: Claudia Goldin and Lawrence F Katz (editors), "Women working longer: increased employment at older ages," chapter 7, pages 217–238. The University of Chicago Press, Chicago, IL.

Flood, Sarah, Miriam King, Steven Ruggles, and J. Robert Warren. 2018. "Integrated Public Use Microdata Series, Current Population Survey: Version 6.0. [dataset]." University of Minnesota, Minneapolis, MN.

Goldhaber, Dan, Betheny Gross, and Daniel Player. 2011. "Teacher career paths, teacher quality, and persistence in the classroom: Are public schools keeping their best?" *Journal of Policy Analysis and Management*, 30(1): 57–87.

Goldring, Rebecca, Soheyla Taie, and Minsun Riddles. 2014. "Teacher Attrition and Mobility: Results from the 2012-13 Teacher Follow-Up Survey (NCES 2014-077)." National Center for Education Statistics, Washington, DC.

Grissmer, David W and Sheila Nataraj Kirby. 1992. "Patterns of attrition among Indiana teachers." RAND Corporation, Santa Monica, CA.

Harris, Douglas N and Scott J Adams. 2007. "Understanding the level and causes of teacher turnover: A comparison with other professions." *Economics of Education Review*, 26(3): 325–337.

Henke, Robin R and Lisa Zahn. 2001. "Attrition of New Teachers Among Recent College Graduates: Comparing Occupational Stability Among 1992–93 Graduates Who Taught and Those Who Worked in Other Occupations (NCES 2001-189)." National Center for Education Statistics, Washington, DC.

Ingersoll, Richard M. 2001a. "Teacher turnover and teacher shortages: An organizational analysis." *American Educational Research Journal*, 38(3): 499–534.

Ingersoll, Richard M. 2001b. "Teacher turnover, teacher shortages, and the organization of schools." Center for the Study of Teaching and Policy, University of Washington, Seattle, WA.

Kraft, Matthew A, William H Marinell, and Darrick Shen-Wei Yee. 2016. "School organizational contexts, teacher turnover, and student achievement: Evidence from panel data." *American Educational Research Journal*, 53(5): 1411–1449.

Maestas, Nicole and Julie Zissimopoulos. 2010. "How longer work lives ease the crunch of population aging." *Journal of Economic Perspectives*, 24(1): 139–60.

Milanowski, Anthony T and Allan R Odden. 2007. "A new approach to the cost of teacher turnover." School Finance Redesign Project, Center on Reinventing Public Education, Seattle, WA.

Papay, John P, Andrew Bacher-Hicks, Lindsay C Page, and William H Marinell. 2017. "The challenge of teacher retention in urban schools: Evidence of variation from a cross-site analysis." *Educational Researcher*, 46(8): 434–448.

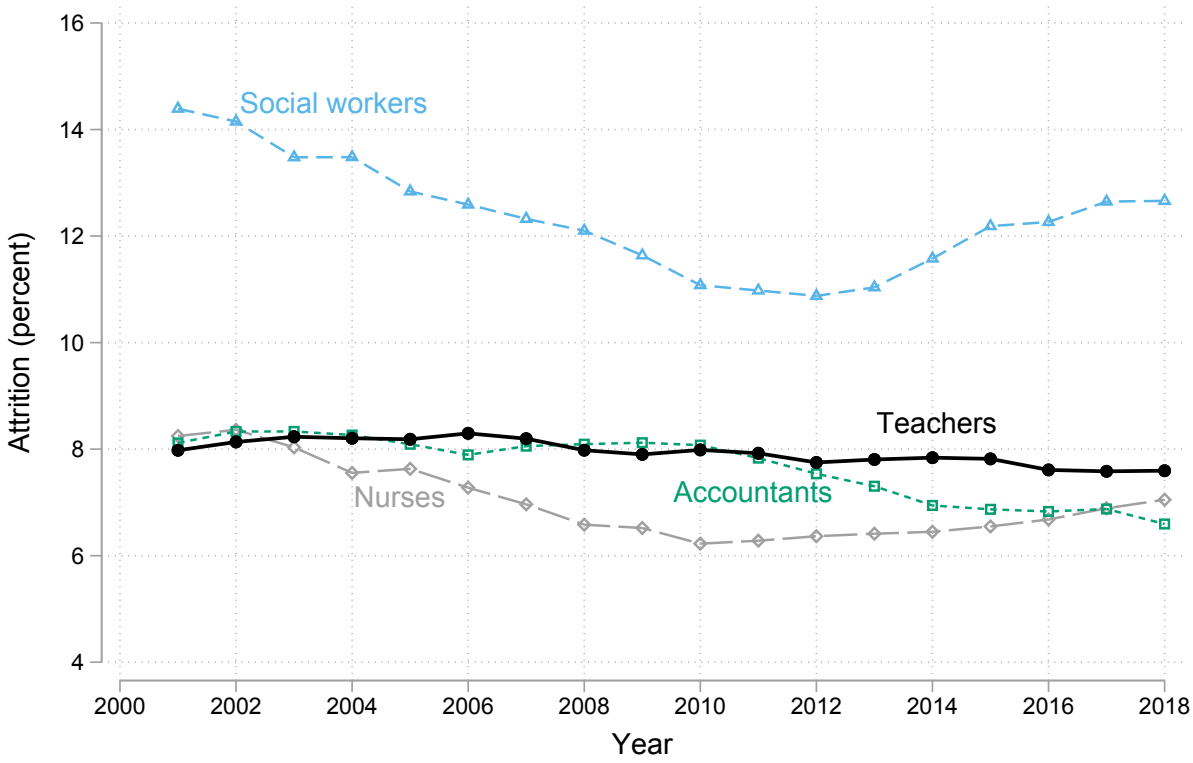
Ronfeldt, Matthew, Susanna Loeb, and James Wyckoff. 2013. "How teacher turnover harms student achievement." *American Educational Research Journal*, 50(1): 4–36.

Stinebrickner, Todd R. 2002. "An analysis of occupational change and departure from the labor force: Evidence of the reasons that teachers leave." *Journal of Human Resources*, pages 192–216.

Sun, Min, Andrew Saultz, and Yincheng Ye. 2016. "Federal policy and the teacher labor market: exploring the effects of NCLB school accountability on teacher turnover." *School Effectiveness and School Improvement*, 28(1): 102–122.

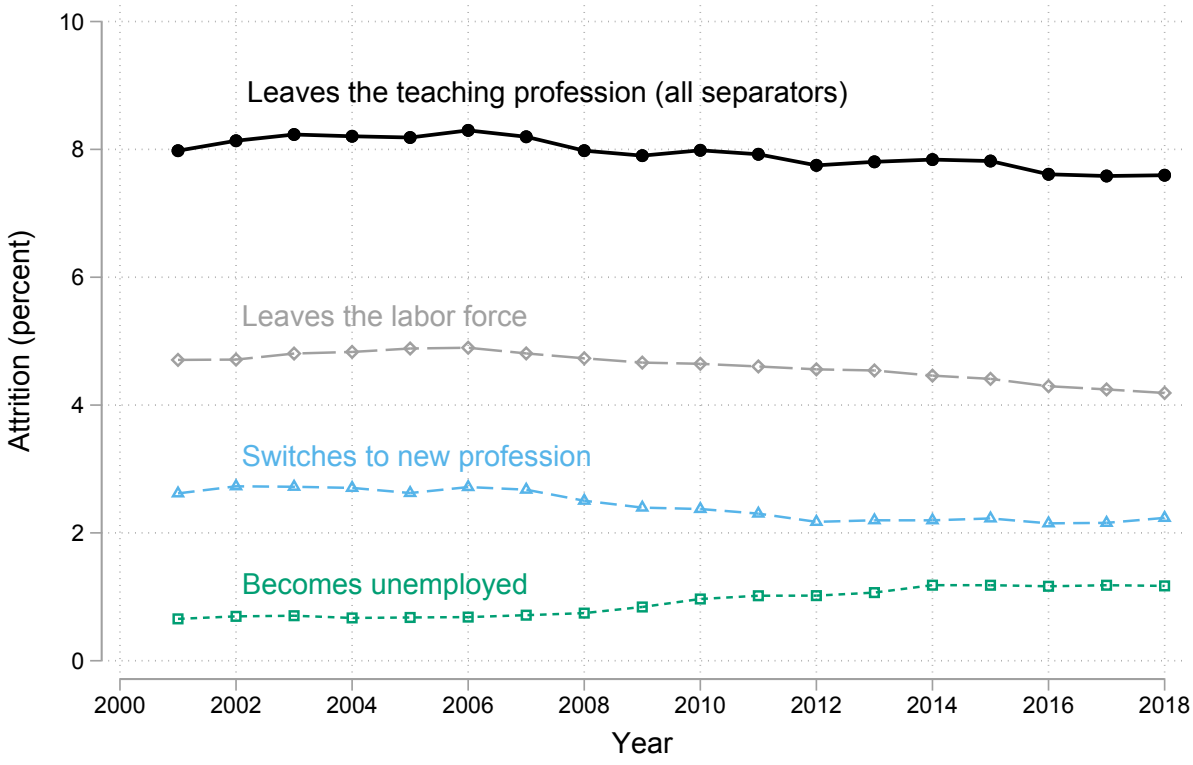
Figures & Tables

Figure 1: Attrition for teachers and other professions, 2001-2018



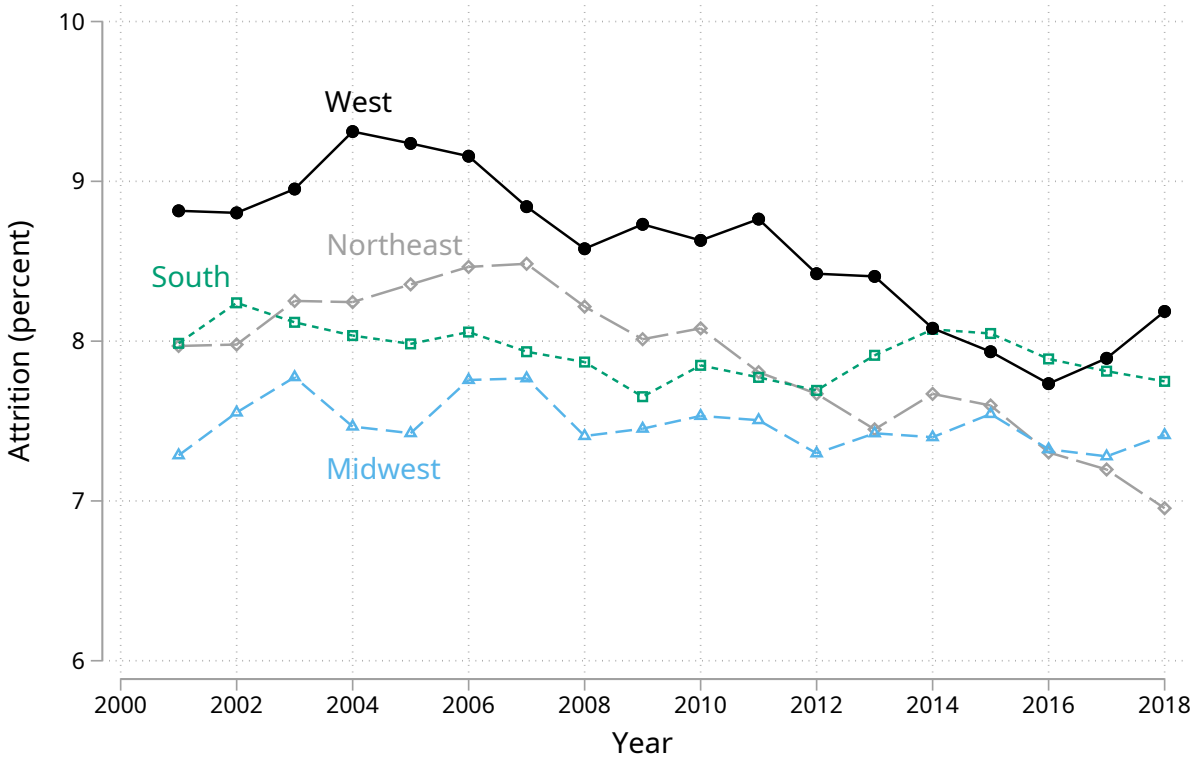
Notes: The graph uses ASEC (CPS) data from 1992 to 2018. Each point is a moving average using 10 years of pooled data. Attrition is defined as a difference between last year's and last week's stated occupation. Individual weights are applied to calculate means.

Figure 2: Teacher attrition by type, 2001-2018



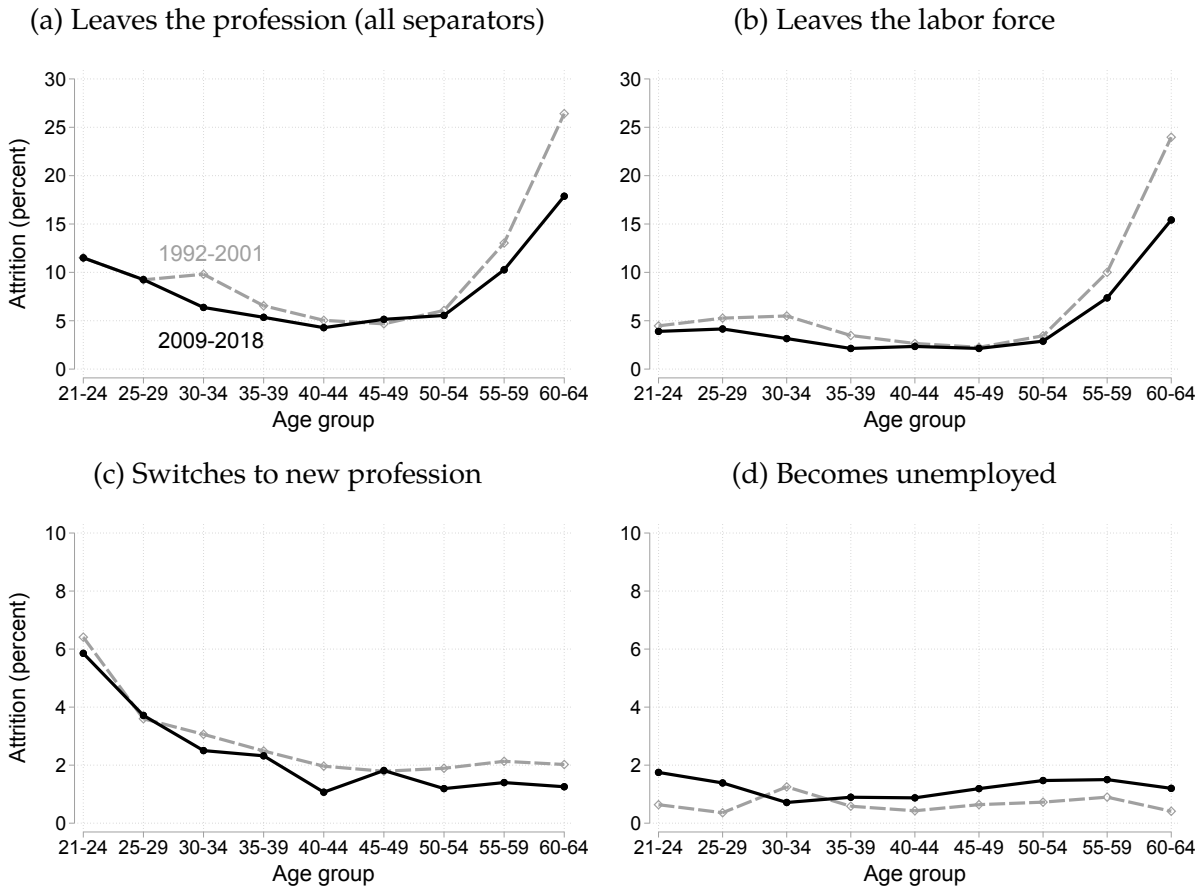
Notes: The graph uses ASEC (CPS) data from 1992 to 2018. Each point is a moving average using 10 years of pooled data. Attrition is defined as a difference between last year's and last week's stated occupation. Individual weights are applied to calculate means.

Figure 3: Teacher attrition by census region, 2001-2018



Notes: The graph uses ASEC (CPS) data from 1992 to 2018. Each point is a moving average using 10 years of pooled data. Attrition is defined as a difference between last year's and last week's stated occupation. Individual weights are applied to calculate means.

Figure 4: Teacher attrition by type and age group, 1992-2001 & 2009-2018

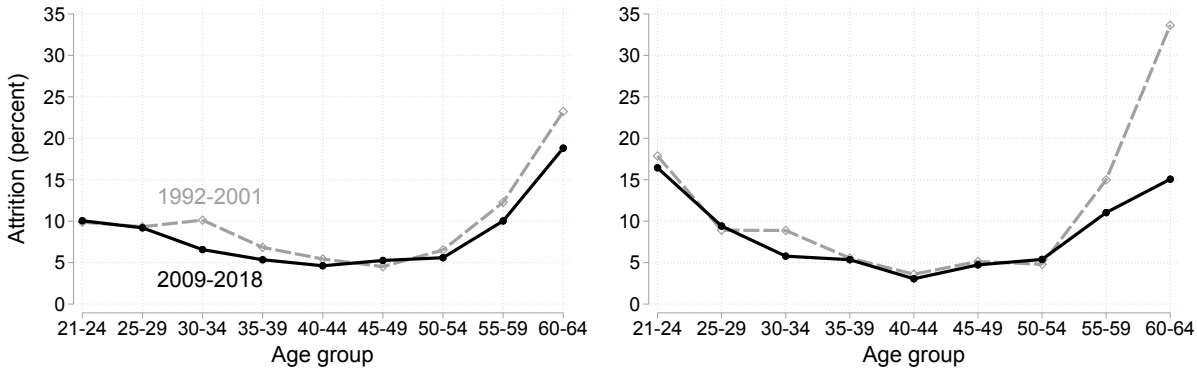


Notes: The light dashed line uses ASEC (CPS) data from 1992 to 2001 and the dark solid line from 2009 to 2018. Each point is the average attrition for the defined age group using 10 years of pooled data. Attrition is defined as a difference in last year's and last week's stated occupation. Individual weights are applied to calculate means.

Figure 5: Teacher attrition by type, gender, and age group, 1992-2001 & 2009-2018

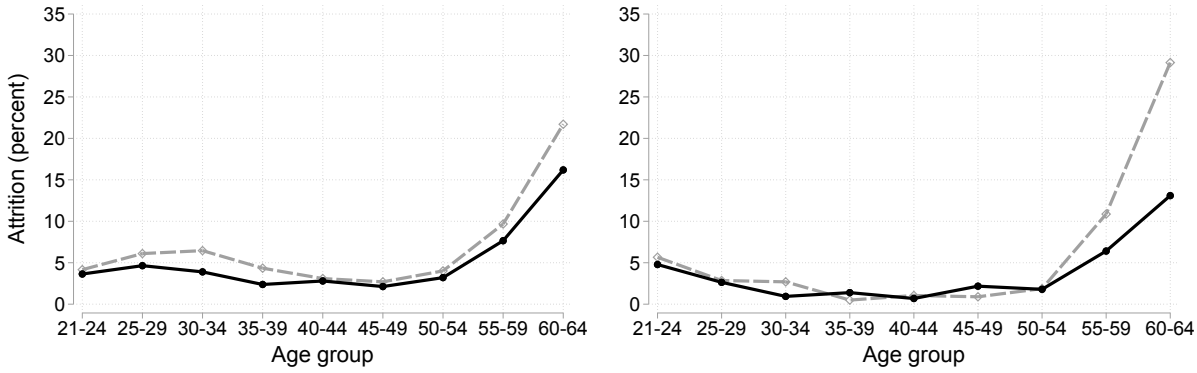
(a) Leaves the profession, female

(b) Leaves the profession, male



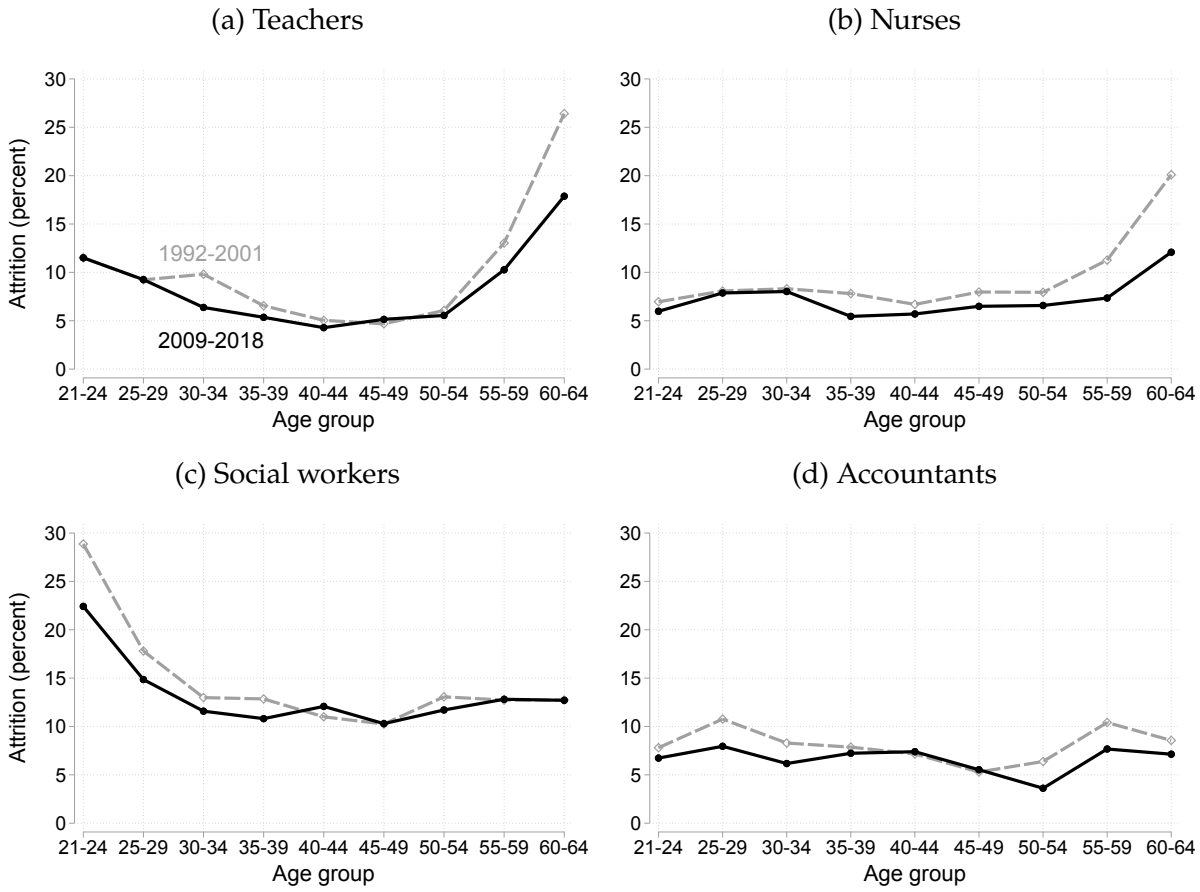
(c) Leaves the labor force, female

(d) Leaves the labor force, male



Notes: The light dashed line uses ASEC (CPS) data from 1992 to 2001 and the dark solid line from 2009 to 2018. Each point is the average attrition for the defined age group using 10 years of pooled data. Attrition is defined as a difference between last year's and last week's stated occupation. Individual weights are applied to calculate means.

Figure 6: Attrition (all separators) by profession and age group, 1992-2001 & 2009-2018



Notes: The light dashed line uses ASEC (CPS) data from 1992 to 2001 and the dark solid line from 2009 to 2018. Each point is the average attrition for the defined age group using 10 years of pooled data. Attrition is defined as a difference between last year's and last week's stated occupation. Individual weights are applied to calculate means.

Table 1: Descriptive statistics, 1992-2001 & 2009-2018

Variable	1992-2001				2009-2018			
	Teachers	Nurses	Social workers	Account-ants	Teachers	Nurses	Social workers	Account-ants
Attrition	8.0	8.2	14.4	8.1	7.6	7.1	12.7	6.6
Age	41.8	40.4	39.6	38.1	42.4	42.6	41.8	41.6
Female	75.5	93.0	71.3	46.0	76.5	89.9	83.3	57.5
Black	8.0	8.7	18.8	6.9	8.5	11.4	22.5	8.9
Married	71.1	68.6	56.7	65.4	68.4	65.7	56.2	63.3
Separated or divorced	10.2	13.7	14.6	8.2	9.9	12.9	14.4	9.6
Advanced degree	1.4	1.6	1.3	.8	1.3	1.8	1.7	1.0
Young child in household	41.2	16.9	38.8	19.2	49.6	17.1	46.1	26.6
<10 employees	14.1	20.0	14.5	18.7	16.8	16.3	16.5	15.3
10-24 employees	4.2	3.6	5.7	17.4	4.5	2.3	5.1	15.3
25-99 employees	15.4	10.7	16.7	19.5	14.8	9.7	18.3	21.6
100-499 employees	20.8	17.6	17.5	11.6	17.5	13.4	18.0	13.6
500-999 employees	10.8	14.0	6.7	4.5	9.1	10.1	5.9	5.3
1000 or more employees	48.7	54.1	53.4	47.0	54.2	64.5	52.6	44.2
Average weekly earnings	488.1	575.2	463.9	678.3	493.3	638.6	478.7	769.2
Has health insurance	96.2	96.6	96.2	95.7	85.8	86.1	85.8	85.2
Insurance from employer	90.5	91.3	91.1	88.3	87.8	89.3	89.3	86.3
Enrolled in pension plan	75.8	66.3	67.8	63.2	67.3	61.5	60.1	55.3
Sample size	22,727	5,932	2,922	5,574	32,629	11,704	3,894	8,013

Notes: Samples are pooled from the Annual Social and Economic Supplement of the Current Population Survey. Occupation code definitions are given in Appendix Table A1. Attrition is defined as an individual either (i) leaving their job for a position in a different industry, (ii) becoming unemployed, or (iii) leaving the labor force. A young child is defined to be under 6 years old. Earnings are in 2016 dollars. Individual weights are used to calculate means.

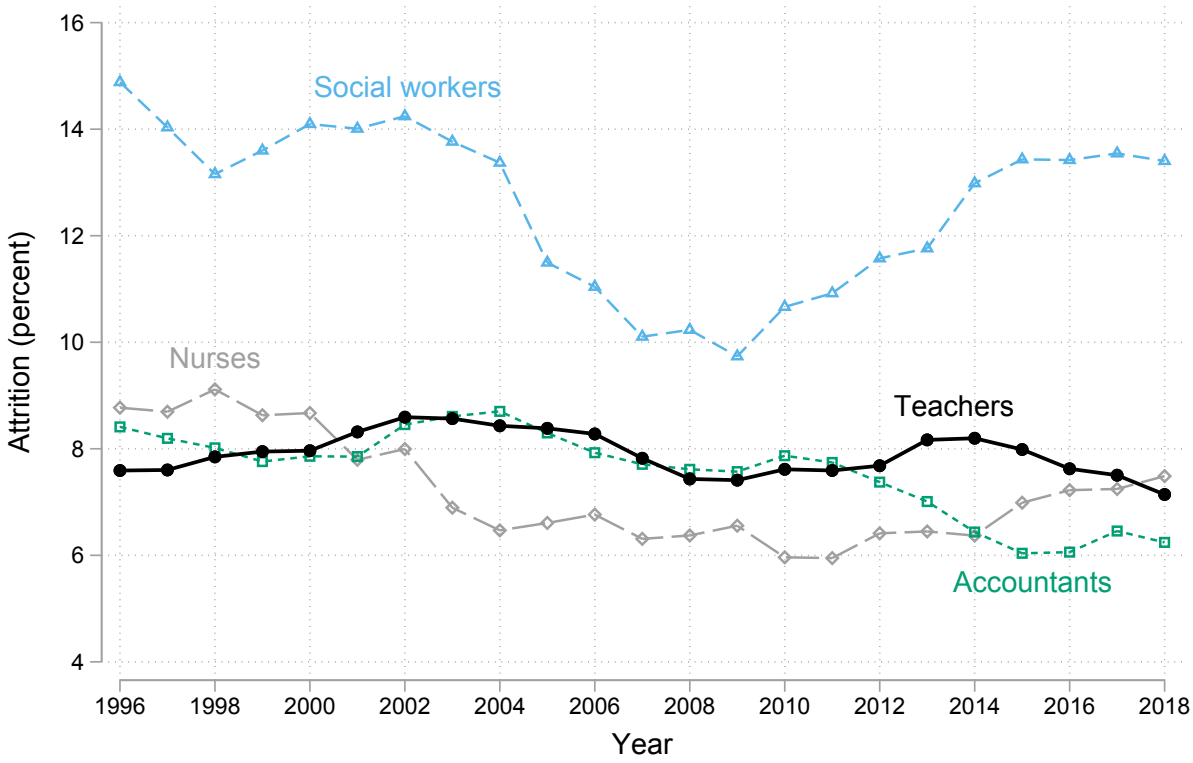
Table 2: Covariate associations with attrition, 1992-2018

Variable	Teachers	Nurses	Social workers	Accountants
Age	−1.69	−0.63***	−0.81**	−0.33*
	(0.10)	(0.17)	(0.34)	(0.17)
Age-squared	0.02	0.01***	0.01**	0.00*
	(0.00)	(0.00)	(0.00)	(0.00)
Female	−1.95	−2.85***	−1.30	−1.78***
	(0.28)	(0.76)	(1.02)	(0.47)
Black	0.91	0.41	0.85	1.25
	(0.43)	(0.67)	(1.10)	(0.96)
Married	−0.09	0.53	0.04	0.72
	(0.35)	(0.59)	(1.17)	(0.66)
Separated or divorced	0.09	1.72**	−0.08	1.50
	(0.49)	(0.79)	(1.45)	(0.99)
Widowed	3.16	4.28*	4.00	−1.23
	(1.27)	(2.23)	(3.93)	(1.77)
Advanced degree	1.13	6.71***	−0.36	−0.01
	(0.24)	(0.68)	(0.86)	(0.54)
Young child	3.27	0.61	−2.99**	1.96***
	(0.34)	(0.55)	(1.16)	(0.65)
Log weekly earnings	−6.70	−6.70***	−5.90***	−4.37***
	(0.26)	(0.48)	(1.03)	(0.45)
Has health insurance	1.59	−1.69*	−0.67	0.66
	(0.54)	(0.89)	(1.95)	(1.08)
Insurance from employer	−5.45	−4.54***	−12.18***	−5.73***
	(0.59)	(1.00)	(2.05)	(1.08)
Enrolled in pension plan	−4.98	−1.99***	−4.28***	−3.20***
	(0.34)	(0.45)	(0.97)	(0.49)

Notes: Samples are pooled from the Annual Social and Economic Supplement of the Current Population Survey. Occupation code definitions are given in Appendix Table A1. A young child is defined to be under 6 years old. Earnings are in 2016 dollars. Asterisks refer to the difference between a coefficient for a given profession and the coefficient for teachers. Individual weights are used to calculate means.
*** $p<0.01$; ** $p<0.05$; * $p<0.10$

A Appendix

Figure A1: Attrition for teachers and other professionals, 1996-2018



Notes: The graph uses ASEC (CPS) data from 1992 to 2018. Each point is a moving average using 5 years of pooled data. Attrition is defined as a difference between last year's and last week's stated occupation. Individual weights are applied to calculate means.

Table A1: ASEC (CPS) occupation definitions over time

Occupation	Years	Code	Definition
Teacher	1992-2002	155	Teachers, prekindergarten and kindergarten
		156	Teachers, elementary school
		157	Teachers, secondary school
		158	Teachers, special education
		159	Teachers, not elsewhere classified
	2003-2018	2300	Preschool and kindergarten teachers
		2310	Elementary and middle school teachers
		2320	Secondary school teachers
		2330	Special education teachers
		2340	Other teachers and instructors
Nurse	1992-2002	95	Registered nurses
		207	Licensed practical nurses
	2003-2010	3130	Registered nurses
		3500	Licensed practical and licensed vocational nurses
	2011-2018	3255	Registered nurses
		3500	Licensed practical and licensed vocational nurses
Social worker	1992-2002	174	Social workers
	2003-2018	2010	Social workers
Accountant	1992-2002	23	Accountants and auditors
	2003-2018	800	Accountants and auditors