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# Comparing Turnover Intentions and Actual Turnover in the Public Sector Workforce: Evidence from Public School Teachers

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## Abstract

Many studies rely on public sector employees' reported career intentions instead of measuring actual turnover, but research does not clearly document how these variables relate to one another. We develop and test three ways in which measures of employee intentions and turnover might relate to one another: (a) intention may measure the same underlying construct as turnover; (b) intention may be distinct from but strongly related to turnover; or (c) intentions may be distinct from turnover. Using nationally representative data on 102,970 public school teachers, we conduct a descriptive and regression analysis to probe how teachers' turnover intentions are and are not associated with attrition. While there is some variation across measures of intent, we find evidence most consistent with the second scenario; intention is distinct from, but strongly related to, turnover. We offer recommendations for how researchers should use public sector employee intentions in research.

Keywords: public sector employees, turnover intentions, teacher turnover, construct validity

In 2017-2018, there were approximately 3.3 million public school teachers in the United States, which constitutes the largest group of public employees in the country (NCES, 2021). Despite the fact that public school teachers represent a substantial portion of the public workforce, much of the literature in public administration has not examined teacher intentions and turnover (Grissom et al., 2016). Researchers, policymakers, and school districts care about teacher turnover because teacher turnover poses organizational costs (e.g., separation costs, recruitment costs, and training costs) and has detrimental client-level outcomes (Henry & Redding, 2020; Ronfeldt et al., 2013). Thus, understanding what drives turnover is a critical area for public administration research. However, recent systematic reviews and meta-analyses within and outside of education find that researchers often address employees' reported career intentions instead of measuring actual turnover (Billingsley & Bettini, 2019; Nguyen et al., 2020; Rubenstein et al., 2018). In education, there is a rich literature that examines actual turnover (Nguyen & Springer, 2021), but many studies still rely on career intentions, particularly when turnover behaviors are not available. Equating career intentions and actual turnover may be problematic if turnover and career intentions are not closely aligned (Moynihan & Landuyt, 2008). Thus, the purpose of this investigation is to examine evidence regarding the criterion-related validity of measures of intent with respect to actual turnover in the context of public school teachers. In so doing, we hope to provide recommendations for future research relying on intentions within public administration and education fields of study.

### **Why Do Scholars Measure Teacher Intentions?**

In studies purporting to address problems with employee turnover, scholars often examine employees' intentions as a dependent variable instead of their actual turnover for three main reasons. First, the literature on attitudinal theory suggests intent is a predictor of behavior

(Mobley et al., 1978). Prior research with federal employees has shown there is a strong link between turnover intention and turnover behavior (Cho & Lewis, 2012). Meta-analyses have also established empirical links between turnover intentions and job behaviors, such as turnover, in many professions (Harrison et al., 2006).

Second, intentions are less time-consuming, thus less expensive, to measure than employees' subsequent employment (e.g., Gersten et al., 2001), since measuring actual turnover typically involves more costly longitudinal designs. Measuring turnover intentions through surveys makes primary data collection more feasible than measuring actual turnover.

Third, data on career intentions are the only indicator of attrition that is available in some datasets. For example, the National Teacher and Principal Survey (NTPS)—the largest nationally representative study of public school teachers—currently includes information about teachers' intentions but not their actual turnover. More specifically, the NTPS 2015-2016 does not have turnover behavior due to poor response rate in the Teacher Follow-Up Survey (TFS) and the NTPS 2017-2018 does not measure turnover behavior. The NTPS 2020-2021 wave will have turnover measures in the TFS of 2021-2022, but the data will not be available until 2023.

### **Relationships between Teacher Intention and Turnover**

Though scholars have examined predictors of intent for decades, investigations of the validity of intent as a stand-in for teacher turnover are limited. Analyzing North Carolina administrative data, Ladd (2011) found that, in schools where a higher proportion of teachers expressed an intention to leave, there was a higher turnover rate, providing some evidence that measures of intent provide a signal regarding turnover. However, Ladd (2011) was unable to link an individual teacher's intent to their own turnover; she examined turnover data at the school level, not the teacher level. Studies within public administration have taken a similar approach,

linking aggregate turnover intentions among public sector employees to actual turnover (Cohen et al., 2016). Given the possibility of aggregation bias and ecological fallacies, it is important to have employee-level data to inform our understanding of public sector turnover.

To our knowledge, only two studies have examined associations between individual teachers' intent and their own turnover (Boe et al., 1999; Gersten et al., 2001). Gersten et al. (2001) followed 33 special educators who reported on a survey that they intended to leave teaching special education over 15 months. They found that 69% of these special educators did in fact leave within 15 months, which they interpreted as indicating that intent is meaningfully associated with actual attrition. By contrast, in analysis of Schools and Staffing Survey (SASS) data from 1987 – 1995, Boe et al. (1999) found that only 15% of teachers who voluntarily left expressed an intent to do so 6 months prior, which they interpreted as indicating that intent is not strongly associated with actual attrition. Differences in results may be due to differences in the time frame (i.e., 15 months vs. 6 months) as well as differences in the population examined and sampling strategy. However, no studies have examined associations using more robust methods or a broader population of teachers; further, these studies are quite dated. We are unaware of any recent studies within public administration that have examined the relationship between employee intentions and turnover using employee-level data (Cohen et al., 2016; Kirschenbaum & Weisburg, 1990).

### **Purpose of the Present Investigation**

If researchers are to continue using intent as an outcome in research that aims to inform policy and practice, it is crucial to establish a stronger evidence base regarding the validity of measures of employees' turnover intentions. Thus, in this measurement study, we aim to examine evidence for the criterion-related validity of three measures of intent: intent to leave,

intent to stay, and intent to transfer. Of note, validity is specific to a particular use (Kane, 2010); we evaluate the criterion-related validity of measures of intent for use in research examining conditions associated with turnover, not for other potential uses (e.g., leaders' or policymakers' decision making).

For uses in research, researchers need to understand whether measures of intent are (a) measuring the same underlying construct as turnover, and thus can be used as proxies for turnover; (b) distinct from but strongly related to turnover, such that intent predicts turnover; or (c) distinct from and unrelated to turnover, in which case, studies with intent as an outcome measure could not credibly contend that they are addressing problems related to turnover. To act as a proxy for turnover, measures of intent would need to both strongly predict actual turnover (Criterion 1) and be sensitive to known predictors of turnover (Criterion 2). To act as a distinct construct that provides a signal regarding likelihood of turnover, measures of intent would need to predict actual turnover (Criterion 1 only), controlling for relevant covariates. Finally, if intent is a distinct construct, measurement of intent would be unrelated to actual turnover (neither Criterion 1 nor Criterion 2). Table 1 summarizes the possible relationships between intent and turnover as well as their related criteria.

[Table 1]

Understanding how measures of intent operate is essential for both future research and for interpreting results of past studies using intent as an outcome measure. To address this aim, we used multiple waves of the SASS, a nationally representative survey of teachers that has data on both intentions and actual turnover, to examine the extent to which intent is sensitive to known predictors of turnover (Criterion 1) and intent predicts turnover (Criterion 2). Specifically, we examine how different measures of intentions, including intent-to-leave, intent-

to-stay, and think-about-transferring, differentially predict overall turnover, moving schools, and leaving teaching. Insights from the relationship between public school teacher turnover intentions and actual turnover help us to develop guidance for researchers regarding the use of turnover intentions in other public organizations.

### **Data and Methods**

Data for this study come from the SASS and its supplement, the Teacher Follow-Up Survey (TFS). These surveys are administered by the National Center for Educational Statistics (NCES) and consist of nationally representative samples of public schools and teachers in the United States. SASS uses a stratified probability sampling design based on the Common Core of Data to reflect the population of schools and students in the U.S., with more than 30,000 public school teachers included in each wave. These surveys include comprehensive data on teacher characteristics and school characteristics. Importantly, the SASS includes teacher intentions as well as actual turnover. For more details, please consult the SASS documentation (Cox et al., 2017). For this study, we use three iterations of SASS where teacher intentions and turnover behavior are available, the 2003-2004, 2007-2008, and 2011-2012 SASS waves. We employ sampling weights to make results nationally representative. The analytic sample size is 102,970 unique teacher-year observations.

### **Measures of Teacher Intentions and Turnover**

A full description of the study variables is provided in Appendix Table 1. We consider three types of intentions: intent-to-leave, intent-to-stay, and think-about-transferring. In response to the question “How long do you plan to remain in teaching?”, the response categories include staying: *as long as I am possible; until eligible for retirement benefits; until something better comes along* or *specific life events such as parenthood; definitely plan to leave teaching as soon*

*as possible; or undecided at the time.* We consider “as long as I am able” as intent-to-stay and “definitely plan to leave teaching as soon as possible” as intent-to-leave. We operationalize intent-to-stay/leave as binary variables with “1” indicating intent-to-stay/leave and 0 otherwise.

Think-about-transferring is a Likert-scale response to the question, “I think about transferring to another school.” We transform this variable to a 0 to 1 scale where 0 is strongly disagree, .33 is somewhat disagree, .66 is somewhat agree, and 1 is strongly agree. See Table 2 for the full response set and their distribution over time.

We also include actual turnover, categorized into one of three categories: stayers, leavers, and movers. Stayers are teachers who remained in the same school as in the baseline year, movers are teachers who switched to a new school, and leavers are teachers who left the teaching profession. Overall, turnover refers to the combined group of movers and leavers, those who do not stay in the same school from the previous year. From the perspective of the school, moving and leaving are equivalent as both actions result in the teacher no longer teaching in the school the next year.

## **Empirical Approach**

Our analysis consists of three main parts: (a) a descriptive analysis of how teachers’ intentions vary with their actual turnover behavior, (b) regression analyses to examine the associations between teacher and school characteristics with intentions, and (c) regression analyses to examine the associations between turnover intentions and actual turnover, controlling for teacher and school characteristics. In descriptive analyses, we first examine the distribution of actual turnover based on their intentions and then we examine the correlations of intentions with actual turnover. In regression analyses, we first estimate how well-known predictors of teacher turnover are associated with teacher’s intentions and actual turnover while employing



survey wave fixed effects and state fixed effects. The wave fixed effects account for time-specific correlates of teacher intention and turnover while the state fixed effects account for unobserved heterogeneity across states. We also employ sampling weights and we use heteroskedastic-robust standard errors clustered at the state level. More specifically, we use this model:

$$Intention_{ijst} = \beta_0 + \mathbf{T}_i\beta_1 + \mathbf{S}_j\beta_2 + \gamma_s + \lambda_t + \varepsilon_{ijt} \quad (1)$$

*Intention* includes one of three intention types for teacher *i* from school *j* in state *s* in year *t*.  $\mathbf{T}_i$  is a vector of teacher characteristics,  $\mathbf{S}_j$  is a vector of school characteristics,  $\gamma_s$  is a state fixed effect,  $\lambda_t$  is a year fixed effect, and  $\varepsilon_{ijt}$  is the error term. The first model, Equation 1, allows us to examine the associations between teacher and school characteristics with teacher intentions as the proxy for turnover, similar to how many studies use intentions when turnover measures do not exist. Using the rich literature on teacher turnover as a reference point, this analysis allows us to compare whether the associations of teacher and school characteristics are similar in significance and direction as when turnover is the outcome.

Next, we examine how intentions predict turnover after controlling for a host of teacher and school characteristics. In particular, we use this model:

$$Turnover_{ijst} = \beta_0 + \beta_1 Intention_i + \mathbf{T}_i\beta_2 + \mathbf{S}_j\beta_3 + \gamma_s + \lambda_t + e_{ijt} \quad (2)$$

This model allows us to examine the extent to which teacher intentions may predict their actual turnover behaviors even after accounting for differences between states as well as teacher and school characteristics. If  $\beta_1$  is significant and substantively meaningful, this would indicate teachers' intentions predict turnover decisions, even after we control for many important predictors of turnover such as teacher demographics, qualifications, and credentials as well as their school working conditions. This finding would imply that future research must more

carefully understand how turnover intentions mediate the associations between school working conditions and teacher turnover, and how intentions relate to teacher productivity and other policy-relevant job attitudes.

These descriptive and regression analyses allow us to address the three possibilities that we outline in Table 1. If turnover intentions are related to teacher and school characteristics in the same ways that actual turnover is related to these characteristics in the first model, and if turnover intentions strongly predict actual turnover controlling for covariates in the second model, then we can consider turnover intentions as a proxy for turnover, such that they measure the same underlying construct (Possibility A). By contrast, if turnover intentions are not predicted by the same teacher and school characteristics in the same ways as actual turnover is predicted in the first model, but they do predict turnover in the second model, then we can consider turnover intentions as a valuable predictor of turnover, albeit a distinct construct (Possibility B). Finally, if turnover intentions are not predicted by the same teacher and school characteristics as turnover in the first model and they do not predict turnover in the second model, then we would conclude that these are two entirely distinct constructs, and investigations of turnover intentions are not plausibly related to actual turnover (Possibility C).

## **Results**

### **Describing Teacher Turnover Intentions and Actual Turnover**

First, we examine the patterns of teacher intentions and actual turnover (Table 2). Teachers who indicated they intended to leave as soon as possible left teaching at much higher rates than teachers who did not intend to leave (Panel A, 32.5% versus 6.8%). Despite this difference, many teachers who did not indicate that they planned to leave left teaching the next year and many teachers who indicated that they planned to leave teaching did not leave. To

illustrate, we examine the unweighted frequencies in Appendix Table 2. For every 100 teachers who did not indicate they would leave as soon as possible, 7 teachers still left the profession—a fraction comparable to the annual rate of leaving teaching (7.16%). For every 100 teachers who indicated they would leave as soon as possible, 44 left and 66 were still teaching the next year.

[Table 2]

In Panel B, teachers who said they intended to stay as long as possible were less likely to leave compared to other teachers (5.4% versus 8.8%), although this difference appears small in magnitude. In Panel C, 4% of teachers who strongly disagree with the statement “I think about transferring to another school” actually move schools; in contrast, 11.1% of teachers who somewhat agree and 18.5% of teachers who strongly agree move schools by the next school year. Although teachers who feel more strongly about transferring are more likely to do so, many who think about transferring do not end up moving schools.

In Table 3, we examine correlations among teachers’ intentions and turnover. Teachers’ intent-to-leave and think-about-transferring are most correlated with turnover behaviors. In particular, intent-to-leave is most strongly correlated with leaving the profession ( $r=0.15$ ,  $p < .001$ ), while think-about-transferring is most strongly correlated with switching schools ( $r=0.17$ ,  $p < .001$ ). The inverse correlation between intent-to-stay and actual turnover is smaller ( $r=-0.05$ ,  $p < .001$ ).

[Table 3]

### **Examining Correlates of Teacher Turnover Intentions**

Our next step in evaluating criterion-related validity evidence for use of turnover intentions in research involves regressing each intention and actual turnover on a set of teacher and school characteristics that have been identified as important predictors of turnover in prior

research (Nguyen et al., 2020), to test the extent to which intentions can be used as a proxy for actual turnover. If these variables are significant predictors of teacher intentions with similar coefficients as in models predicting turnover, then substituting teacher intentions for teacher turnover may be appropriate in some cases, such as when turnover behaviors are not recorded or observable.

[Table 4]

In Model 1 of Table 4, we find weak evidence that well-known predictors of turnover are associated with intentions. For intent-to-leave, the vast majority of predictors are not associated with intentions, including novice and special education status, and teaching in majority minority schools, holding constant other variables in the model. Only union membership, administrative support, and teacher cooperation are associated with intent-to-leave, but they are attenuated relative to their relationships with actual leaving (compared to Model 5 of Table 4).

Several factors are significant and positive predictors of teacher intent-to-stay, namely novice status, teaching in suburban schools, teaching in majority minority school, administrative support, and teacher cooperation. The direction of a few of these associations differs from prior research with turnover as an outcome. For instance, teachers in suburban school indicate they are more likely to stay than teachers in rural schools, but in fact, they are more likely to turn over than rural teachers (Models 2 and 4 of Table 4). Similarly, teaching in majority-minority schools was associated with an increased probability of intending to stay in teaching, a finding opposite from prior research with actual turnover as an outcome (Nguyen et al., 2020). While prior research strongly indicates novice teachers are more likely to turn over than experienced teachers (Henry & Redding, 2020; Nguyen et al., 2020), our results find novice teacher are more likely to want to stay in teaching relative to more experienced teachers (Model 2 of Table 4). We

recognize that this pattern could also be explained by higher involuntary turnover among novice teachers (e.g., reduction in force). We attempted to leverage the TFS to differentiate between voluntary and involuntary turnover among the subset of respondents. However, changes to the question on involuntary turnover over time and limited sample size prevented us from completing this analysis.

Most of the estimates for think-about-transferring (Model 3 of Table 4) are significant and follow closely prior research (Nguyen et al., 2020) and the results examining actual teacher movement between schools.

### **How Do Teacher Intentions Predict Actual Turnover?**

Last, we explore the extent to which teacher intentions are predictive of turnover once we account for teacher and school characteristics. This analysis provides the strongest test of the predictive validity of teacher turnover intentions on actual turnover, thereby illustrating how closely related to actual turnover and teachers' intentions are. Table 5 reports how each measure of intent is associated with various forms of teacher turnover, controlling for teacher and school characteristics. For turnover, intent-to-leave and think-about-transferring are most predictive of turnover, while intent-to-stay is weakly predictive of turnover. Reflecting the descriptive analysis, intent-to-leave and think-about-transferring are most predictive of leaving the profession and moving to another school, respectively (Models 2 and 9 of Table 5). Even after controlling for teacher and school characteristics, teachers who indicate they intend to leave as soon as possible are 26.9 percentage points more likely to leave the profession relative to teachers who indicate otherwise. Similarly, teachers who strongly agree that they think about transferring schools are 13.8 percentage points more likely to switch schools compared to those who strongly disagree. Of note, the slight change in  $R^2$  between Tables 4 and 5 indicates that

adding the different intentions variables to the model provides little additional explanatory power when predicting actual turnover. In short, teachers who intend to leave and intend to move are substantially more likely to leave and move respectively, controlling for a host of teacher and school characteristics. To alleviate concerns that these results are driven by structural differences between districts, we also employ similar models with district fixed effects that account for differences between districts, and the results are substantively similar (Appendix Table 3).

[Table 5]

## **Discussion**

The goal of our work was to use data on public school teachers to illustrate the relationship between public sector employees' turnover intentions and actual turnover. In the introduction, we set out three scenarios for how these variables may be related to one another: (a) measures of intent both predict turnover and are sensitive to predictors of turnover, such that they can be plausibly considered as measuring the same underlying construct as, and can be used as proxies for turnover; (b) measures of intent are distinct from but strongly related to turnover; and (c) measures of intent are distinct from and unrelated to turnover. We discuss our findings and evidence of criterion-related evidence for each. The results provide evidence that measures of intent are distinct from turnover but they are moderately predictive of turnover (possibility B). In reviewing our findings, we attend to the larger question about the ways in which these measures can be valid for different purposes.

### **Inconsistent Predictors of Employee Turnover and Intentions**

The first criterion we outlined for determining how intentions and actual turnover are related was that intent is sensitive to known predictors of public sector employee turnover. In our regression analysis, we observe that the common predictors of teacher turnover do not

consistently predict turnover intentions. Intent-to-leave and intent-to-stay were not associated with some common predictors of actual turnover, such as being a special education teacher. In some cases, intentions were associated with predictors in contrapositive ways. For example, being a novice teacher was negatively associated with intent to leave whereas novice status is a strong predictor of actual turnover. Our results are consistent with research outside of education that has shown that turnover intentions and actual turnover are predicted by different sets of variables (Cohen et al., 2016; Kirschenbaum & Weisberg, 1990). In contrast, the predictors of thinking about transferring and moving were better aligned than other intentions and actions.

### **The Relationship Between Employee Intentions and Turnover**

The second condition for using turnover intentions as a proxy for actual turnover was that intentions predict turnover. Intent-to-leave and thinking-about-transferring were found to be somewhat related to leaving and moving schools, respectively. The inverse relationship between intent-to-stay and turnover was less evident.

Specifically, teachers who reported they intended to leave as soon as possible did in fact leave the profession at higher rates than those who did not. Thirty-three percent of teachers who indicated they intended to leave as soon as possible did leave the profession the next year compared to 7% of teachers who did not indicate they intend to leave. This 26 percentage point difference represents a nearly 400% increase in the likelihood of actually leaving the profession between teachers who intend to leave and those who did not. Yet, that two-thirds of teachers who intended to leave were still teaching in the next year, and 7% who did not intend to leave still left, demonstrates the tenuous predictive validity of intent-to-leave and leaving teaching the next year, which is further illustrated by the modest correlation between intent-to-leave and leaving ( $r=0.15$ ). However, when controlling for teacher and school characteristics in the regression

analysis, teachers who indicate they intend to leave as soon as possible are 26.9 percentage points more likely to leave the profession relative to teachers who indicated otherwise.

Similarly, those who strongly agree that they think about transferring to another school are also more likely to move to another school (9.7 percentage point difference or 240% increase in the likelihood of moving schools). Still, only 19% of teachers who feel most strongly about transferring schools actually do so. The correlation between thinking-about-transferring and moving schools is only 0.17. Similarly, the regression analysis showed that teachers who strongly agree that they think about transferring schools are 13.8 percentage points more likely to switch schools compared to those who strongly disagree. Notably, these correlations are comparable to similar studies in public administration and management (Cohen et al., 2016; Kirschenbaum & Weisberg, 1990), where researchers have cautioned that using intentions as a proxy actual turnover can lead to misinterpretations.

## **Recommendations**

Based on the criteria outlined above, we conclude that public sector employee turnover intent measures a distinct construct that is moderately related to turnover. One exception to this pattern was that the predictors of thinking about transferring and moving school were better aligned than other intentions. Intentions may be more sensitive to changes in circumstances over time, particularly with respect to personal and economic conditions as well as school and classroom contexts (Judge & Kammeyer-Mueller, 2012). Actual turnover may reflect the end result of a persistent affective response to work, unlikely to be captured when intentions are measured at a single time point.

Although our conclusion indicates intent should not be considered a proxy for actual turnover, measuring intentions does still have value. Intent-to-leave and thinking-about-



transferring were still, to some extent, predictive of leaving the teaching profession and moving to a new place of employment within the same field respectively, even after controlling for a rich set of control variables and employing either state or district fixed effects (accounting for heterogeneity between states and districts, respectively). As intent-to-leave and thinking-about-transferring are both associated with turnover behaviors, they could be used in mediation analyses or as factors that should be controlled for to reduce omitted variable bias when examining predictors of actual turnover. Thus, we would advise that administrative surveys continue to capture teacher intentions, but researchers should be aware of their limitations when studying public sector employee mobility and use them judiciously, and not as a proxy for turnover.

Intent-to-leave and thinking-about-transferring might also provide other meaningful information to school administrators and researchers alike. Teachers' intentions to move schools or leave teaching are predicted by dissatisfaction with school leadership and other working conditions, and they are associated with teacher burnout (Brunsting et al., 2014; Park & Shin, 2020), which is in turn associated with a number of outcomes, such as student achievement (Madigan & Curran, 2020). Future research should examine the importance of intentions as a construct in its own right, as teachers' affective commitment is predictive of domains other than turnover (Judge & Kammeyer-Mueller, 2012).

### **Limitations and Future Research**

There are at least three limitations that could affect some of our conclusions. First, the measures used in the SASS might not accurately capture teachers' turnover intentions. In contrast with research in industrial and organizational psychology that uses scale measures of turnover intentions (e.g., Bluedorn, 1982; Colarelli, 1984; Mobley et al., 1978), turnover

intentions in the SASS are measured by single items. A more sensitive scale to address intentions could be better associated with actual turnover.

Second, we are only able to examine turnover after one year. It could be that the job dissatisfaction, as expressed by intentions, does not immediately manifest in teachers' turnover. That is, teachers who intend to leave may do so at elevated rates in subsequent years, consistent with Gersten et al.'s (2001) results. Studies examining how intentions relate to turnover on a longer time scale may be useful.

Third, we are unable to probe the extent to which the observed relationships are sensitive to voluntary versus involuntary turnover. It could be that we underestimate the relationship between intentions and turnover by not distinguishing between voluntary and involuntary turnover. Being unable to address this possibility due to the small number of observations who are involuntary turnovers and changes to the question on involuntary turnover over time, we urge future research to attend to differences in how intentions predict voluntary versus involuntary turnover.

More broadly, by empirically separating intentions from actual turnover, we hope this study opens up future research that closely probe the relationship between nonpecuniary benefits, employees' job intentions, and other job attitudes. The turnover of public sector employees, in general, and teachers, in particular, will likely continue to be a priority for policymakers and school administrators alike, especially given early signs of higher teacher attrition as the economy recovers from the pandemic (Hamilton et al., 2020). Additional research is needed that can identify how different job attitudes influence teacher intentions and how teacher intentions shape other school outcomes. Future research should also qualitatively examine why sometimes intentions do not mirror eventual behaviors as well as why thinking about transferring may act as

better proxy to actual turnover relative to intent-to-stay and intent-to-leave.

## **Conclusion**

Intentions are commonly used in place of actual turnover in public administration as well as education research (Cohen et al., 2016; Billingsley & Bettini, 2019; Grissom et al., 2016; Moynihan & Landuyt, 2008; Nguyen et al., 2020). As public school teachers represent a substantial portion of the public employee workforce, our findings inform both research bases. In this study, we examined if intent could be a proxy for actual turnover, if intent measures a distinct construct highly related to actual turnover, or if intent and actual turnover were unrelated constructs. Based on the extent to which intent is sensitive to known predictors of actual turnover and that intent predicted turnover, we conclude that using intent as a proxy for actual turnover is likely inappropriate in most cases. However, intent does measure a distinct construct that is highly related to turnover, and some types of intent may be appropriate to consider when actual attrition is unavailable. Intent-to-leave is somewhat predictive of attrition, controlling for relevant teacher and school characteristics. As such, examining predictors of intent-to-leave may continue to have utility in future research, though researchers should be careful to interpret results of such studies in ways consistent with what the measure does and does not allow us to conclude (i.e., do not draw conclusions about attrition). The predictors of thinking about transferring and moving school were better aligned than other intentions, although the correlation between transfer intention and actually moving schools was more modest than intent-to-leave, indicating the distinctiveness of these constructs. By contrast, we recommend that scholars discontinue using intent-to-stay, as it was neither sensitive to the same teacher and school characteristics as actual retention, nor was it significantly and meaningfully associated with actual retention.

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## Tables

Table 1. Relationships between Intent and Turnover

<b>Criteria</b>	<b>Possible Relationships between Intent and Turnover:</b>		
	(A) Intent Measures the Same Construct as Turnover, and Can Be Used as a Proxy	(B) Intent Measures a Distinct Construct that is Highly Related to Turnover	(C) Intent and Turnover are Unrelated Constructs
(1) Intent is Sensitive to Known Predictors of Turnover	Yes	No	No
(2) Intent Predicts Turnover	Yes	Yes	No



Table 2. Distribution of teacher mobility based on their intentions

Variable	(1) Stayer	(2) Leaver	(3) Mover
<b>Panel A: Intent-to-leave</b>			
No	86.07	6.78	7.15
Yes	59.80	32.54	7.66
<b>Panel B: Intent-to-stay</b>			
No	84.01	8.75	7.24
Yes	87.53	5.40	7.07
<b>Panel C: Think-about-transferring</b>			
Strongly disagree	89.56	6.42	4.03
Somewhat disagree	86.29	6.85	6.85
Somewhat agree	81.47	7.35	11.18
Strongly agree	67.70	13.79	18.51
<b>Panel D: Turnover</b>			
Actual behavior	85.61	7.16	7.23

Note. Nationally representative weights are used. Sample sizes weighted to the nearest 10 in accordance with NCES non-disclosure rule.

Source: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS)

Table 3. Correlations of teacher intentions and turnover behaviors

Variable	(1) Turnover	(2) Leaving the profession	(3) Moving schools
Intent-to-leave	0.104***	0.145***	0.018***
Intent-to-stay	-0.051***	-0.073***	-0.005
Think-about-transferring	0.154***	0.066***	0.173***
<i>N</i>	102,970	94,940	94,780

Note. Nationally representative weights are used. Sample sizes weighted to the nearest 10 in accordance with NCES non-disclosure rule. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Source: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS)

Table 4. Association of teacher intentions and turnover with teacher and school characteristics with state fixed effects

Variable	(1) Intent-to-leave	(2) Intent-to-stay	(3) Think-about-transferring	(4) Overall Turnover	(5) Leaving	(6) Moving
Novice teacher	-0.004* (0.002)	0.109** (0.008)	0.039** (0.004)	0.071** (0.008)	0.033** (0.008)	0.055** (0.007)
Graduate degree	-0.002 (0.001)	-0.002 (0.006)	0.020** (0.003)	0.013* (0.006)	0.003 (0.004)	0.013** (0.004)
Special ed tch	0.001 (0.003)	0.006 (0.010)	0.016* (0.007)	0.030** (0.006)	0.015** (0.005)	0.020** (0.005)
No certification	-0.001 (0.004)	0.027 (0.021)	-0.024 (0.016)	0.115** (0.022)	0.128** (0.019)	0.023 (0.021)
Union member	-0.007** (0.002)	0.022* (0.010)	0.002 (0.004)	-0.027** (0.005)	-0.017** (0.005)	-0.017** (0.004)
Urban school	0.002 (0.003)	0.011 (0.009)	0.026** (0.007)	0.018** (0.007)	0.010* (0.004)	0.012+ (0.007)
Suburban school	-0.002 (0.002)	0.017* (0.007)	0.017** (0.003)	0.021** (0.005)	0.012* (0.006)	0.013** (0.004)
Majority FRPL school	0.000 (0.002)	0.008 (0.007)	0.021** (0.005)	0.006 (0.005)	0.006+ (0.003)	0.002 (0.004)
Majority minority sch	0.001 (0.002)	0.020** (0.007)	0.044** (0.006)	0.026** (0.006)	0.019** (0.005)	0.011* (0.005)
Most selective college	0.001 (0.003)	-0.048** (0.007)	0.016** (0.005)	0.022** (0.005)	0.012+ (0.007)	0.014+ (0.007)
Very selective college	0.000 (0.002)	-0.011 (0.008)	0.006+ (0.004)	0.013 (0.008)	0.011+ (0.006)	0.004 (0.004)
Administrative support	-0.009** (0.001)	0.042** (0.003)	-0.091** (0.004)	-0.018** (0.002)	-0.011** (0.001)	-0.010** (0.003)
Teacher cooperation	-0.003** (0.001)	0.029** (0.003)	-0.059** (0.002)	-0.011** (0.002)	-0.003 (0.002)	-0.011** (0.002)
$R^2$	0.015	0.052	0.207	0.026	0.014	0.024
Observations	102,970	102,970	102,970	102,970	94,940	94,780

Note. Nationally-representative weights are employed. Heteroskedastic-robust standard errors at the state level are in parentheses Other teacher and school characteristics are included but not shown for parsimony. State fixed effects are employed. Sample sizes weighted to the nearest 10 in accordance with NCES non-disclosure rule.

+  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Source: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS)

Table 5. Associations of teacher and school characteristics with teacher intentions and turnover behaviors with state fixed effects

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Intent-to-leave			Intent-to-stay			Think-about-transferring		
	Turnover	Leaving	Moving	Turnover	Leaving	Moving	Turnover	Leaving	Moving
Leave teaching as soon as possible	0.243** (0.019)	0.269** (0.021)	0.026 (0.023)						
Stay as long as possible				-0.037** (0.006)	-0.037** (0.004)	-0.006+ (0.003)			
Thinking about transferring sch							0.150** (0.012)	0.045** (0.007)	0.138** (0.009)
Novice teacher	0.072** (0.008)	0.034** (0.008)	0.055** (0.007)	0.075** (0.008)	0.037** (0.008)	0.056** (0.008)	0.065** (0.008)	0.031** (0.008)	0.050** (0.007)
Graduate degree	0.013* (0.006)	0.004 (0.003)	0.013** (0.004)	0.013* (0.006)	0.003 (0.004)	0.013** (0.004)	0.010 (0.006)	0.002 (0.004)	0.010* (0.004)
SPED	0.030** (0.005)	0.015** (0.005)	0.020** (0.005)	0.030** (0.006)	0.015** (0.005)	0.020** (0.005)	0.027** (0.006)	0.014** (0.005)	0.019** (0.005)
No certification	0.116** (0.022)	0.129** (0.019)	0.023 (0.021)	0.116** (0.021)	0.129** (0.019)	0.023 (0.021)	0.119** (0.021)	0.129** (0.019)	0.027 (0.020)
Union	-0.026** (0.005)	-0.015** (0.005)	-0.017** (0.004)	-0.027** (0.005)	-0.016** (0.005)	-0.017** (0.004)	-0.028** (0.005)	-0.017** (0.005)	-0.017** (0.004)
Urban	0.018* (0.007)	0.010* (0.004)	0.012+ (0.007)	0.019** (0.007)	0.011* (0.004)	0.012+ (0.007)	0.014* (0.007)	0.009* (0.004)	0.009 (0.006)
Suburban	0.021** (0.005)	0.012* (0.006)	0.013** (0.004)	0.021** (0.005)	0.012* (0.006)	0.013** (0.004)	0.018** (0.006)	0.011+ (0.006)	0.010* (0.004)
Majority FRPL	0.006 (0.005)	0.005+ (0.003)	0.003 (0.004)	0.007 (0.005)	0.006+ (0.003)	0.003 (0.004)	0.003 (0.005)	0.005 (0.003)	-0.000 (0.004)
Majority minority	0.026** (0.006)	0.019** (0.005)	0.011* (0.005)	0.027** (0.006)	0.020** (0.005)	0.012* (0.005)	0.020** (0.006)	0.017** (0.005)	0.006 (0.005)
Most sel. college	0.022** (0.005)	0.012+ (0.007)	0.014+ (0.007)	0.020** (0.005)	0.010 (0.007)	0.013+ (0.007)	0.019** (0.005)	0.011 (0.007)	0.011+ (0.007)
Very sel. college	0.013 (0.008)	0.011+ (0.006)	0.004 (0.004)	0.012 (0.008)	0.010+ (0.006)	0.004 (0.004)	0.012 (0.008)	0.011+ (0.006)	0.004 (0.004)
Admin support	-0.015** (0.002)	-0.009** (0.001)	-0.009** (0.003)	-0.016** (0.002)	-0.010** (0.001)	-0.009** (0.002)	-0.004+ (0.002)	-0.007** (0.002)	0.003 (0.002)
Teacher coop	-0.010** (0.002)	-0.002 (0.002)	-0.010** (0.002)	-0.010** (0.002)	-0.001 (0.002)	-0.010** (0.002)	-0.002 (0.002)	0.000 (0.001)	-0.002 (0.002)
R <sup>2</sup>	0.034	0.031	0.024	0.028	0.018	0.024	0.041	0.016	0.046
Observations	102,970	94,940	94,780	102,970	94,940	94,780	102,970	94,940	94,780

Note. Nationally-representative weights are employed. Heteroskedastic-robust standard errors at the state level are in parentheses. Other teacher and school characteristics are included but not shown for parsimony. State fixed effects are employed. Sample sizes weighted to the nearest 10 in accordance with NCES non-disclosure rule.

+  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Source: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS)

## Online Appendix Tables

**Appendix Table 1: Variable descriptions**

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<b>Intentions</b>	
Intent-to-leave	A dichotomous variable where 1 = Definitely plan to leave teaching as soon as possible and 0 = other responses, which includes until I am eligible for retirement benefits, will probably continue unless something better comes along or specific life event (e.g. parenthood, marriage), or as long as I am able, or undecided at this time
Intent-to-stay	A dichotomous variable where 1 = As long as I am able and 0 = other responses, which includes until I am eligible for retirement benefits, will probably continue unless something better comes along or specific life event (e.g. parenthood, marriage), or definitely plan to leave teaching as soon as I can, or undecided at this time
Think-about-transferring	On a scale of 1 = strongly disagree and 4 = strongly agree, teachers report on how they think about transferring to another school.
<b>Turnover Behavior</b>	
Leavers, Movers, Turnover and Stayers	Leavers are teachers who left the teaching profession, movers are teachers switched to a new school, total turnover includes both leaving and moving, and stayers are teachers who are currently teaching in same school.
<b>Select teacher and school characteristics</b>	
Novice	A dichotomous variable where 1 = teacher has less than three years of teaching experience and 0 = teacher has three or more years of teaching experience.
Graduate degree	A dichotomous variable where 1 = teacher has graduate degree and 0 = no graduate degree.
<b>SPED</b>	
No certification	A dichotomous variable where 1 = teacher has no certification and 0 = teacher has any certification.
Union	A dichotomous variable where 1 = teacher is a union member and 0 = teacher is not a union member.
Urban	A dichotomous variable where 1 = school is classified as urban by U.S. census and 0 = otherwise.
Suburban	A dichotomous variable where 1 = school is classified as sub-urban by U.S. census and 0 = otherwise.
Majority FRPL	A dichotomous variable where 1 = the majority of students at the school is eligible for federal free or reduced-price lunch and 0 = the majority of students at the schools is not eligible for federal free or reduced-price lunch (also referred to as low-income schools).
Majority minority	A dichotomous variable where 1 = the majority of students at the school is non-White and 0 = the majority of students at the school is White.
Most selective college	A dichotomous variable where 1 = teacher's undergraduate college/university has Barron's classification of most competitive or highly competitive and 0 = Barron's classification is competitive, less competitive, or noncompetitive.
Very selective college	A dichotomous variable where 1 = teacher's undergraduate college/university has Barron's classification of very competitive and 0 = Barron's classification is competitive, less competitive, or noncompetitive.
Admin support	On a scale of 1 = strongly disagree and 4 = strongly agree, teachers report on the school administration's behavior toward the staff is supportive and encouraging
Teacher coop	On a scale of 1 = strongly disagree and 4 = strongly agree, teachers report on the level of cooperative effort among the staff members.

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Source: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS)

Appendix Table 2. Distribution of teacher mobility based on their intentions (without weights)

Variable	(1) Stayer	(2) Leaver	(3) Mover
<b>Panel A: Intent-to-leave</b>			
No	85.78	6.95	7.27
Yes	58.11	33.98	7.92
<b>Panel B: Intent-to-stay</b>			
No	83.66	9.07	7.27
Yes	87.35	5.35	7.30
<b>Panel C: Think-about-transferring</b>			
Strongly disagree	89.30	6.68	4.02
Somewhat disagree	86.17	7.04	6.79
Somewhat agree	80.98	7.63	11.40
Strongly agree	66.94	19.38	13.68
<b>Panel D: Turnover</b>			
Actual behavior	85.27	7.28	7.44

Note. Nationally representative weights are not used.

Source: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS)

Appendix Table 3. Associations of teacher and school characteristics with teacher intentions and turnover behaviors with district fixed effects

	(1)	(2) Intent-to-leave		(3)	(4)	(5) Intent-to-stay		(6)	(7) Think-about-transferring			
	Turnover	Leaving	Moving	Turnover	Leaving	Moving	Turnover	Leaving	Moving	Turnover	Leaving	Moving
Leave teaching as soon as possible	0.238** (0.021)	0.267** (0.022)	0.024 (0.024)									
Stay as long as possible				-0.041** (0.005)	-0.040** (0.004)	-0.007* (0.004)						
Leave for higher pay												
Thinking about transferring sch									0.149** (0.012)	0.046** (0.009)	0.136** (0.009)	
Novice teacher	0.066** (0.008)	0.033** (0.007)	0.048** (0.007)	0.069** (0.008)	0.036** (0.007)	0.048** (0.008)	0.060** (0.008)	0.031** (0.007)	0.044** (0.007)			
Graduate degree	0.013* (0.005)	0.003 (0.004)	0.013** (0.004)	0.013* (0.006)	0.003 (0.004)	0.013** (0.004)	0.010+ (0.006)	0.002 (0.004)	0.011* (0.004)			
SPED	0.029** (0.006)	0.015** (0.005)	0.019** (0.005)	0.029** (0.006)	0.015** (0.005)	0.019** (0.005)	0.027** (0.006)	0.015** (0.005)	0.018** (0.006)			
No certification	0.110** (0.022)	0.122** (0.020)	0.018 (0.021)	0.110** (0.022)	0.122** (0.020)	0.018 (0.021)	0.112** (0.021)	0.122** (0.020)	0.021 (0.020)			
Union	-0.024** (0.006)	-0.013* (0.006)	-0.015** (0.004)	-0.024** (0.006)	-0.014* (0.006)	-0.015** (0.004)	-0.026** (0.005)	-0.015** (0.006)	-0.016** (0.003)			
Urban	0.010 (0.026)	0.005 (0.014)	0.014 (0.017)	0.010 (0.025)	0.005 (0.014)	0.014 (0.016)	0.006 (0.024)	0.003 (0.013)	0.011 (0.016)			
Suburban	0.003 (0.010)	0.010 (0.006)	-0.005 (0.010)	0.001 (0.010)	0.009 (0.006)	-0.005 (0.010)	0.000 (0.010)	0.008 (0.006)	-0.006 (0.010)			
Majority FRPL	0.017** (0.006)	0.015** (0.005)	0.006 (0.006)	0.017** (0.006)	0.015** (0.005)	0.006 (0.006)	0.013+ (0.007)	0.014* (0.005)	0.003 (0.006)			
Majority minority	0.013 (0.015)	0.012 (0.008)	0.003 (0.012)	0.014 (0.015)	0.013 (0.009)	0.003 (0.012)	0.005 (0.015)	0.009 (0.009)	-0.005 (0.012)			
Most sel. college	0.015** (0.006)	0.007 (0.007)	0.012+ (0.006)	0.014* (0.005)	0.005 (0.007)	0.012+ (0.006)	0.014* (0.005)	0.007 (0.007)	0.010+ (0.006)			
Very sel. college	0.012 (0.009)	0.012+ (0.007)	0.002 (0.006)	0.012 (0.009)	0.012+ (0.007)	0.002 (0.006)	0.012 (0.009)	0.013+ (0.007)	0.002 (0.005)			
Admin support	-0.015** (0.002)	-0.009** (0.002)	-0.009** (0.003)	-0.015** (0.002)	-0.010** (0.001)	-0.009** (0.002)	-0.004 (0.002)	-0.007** (0.002)	0.003 (0.002)			
Teacher coop	-0.011** (0.002)	-0.002 (0.002)	-0.011** (0.002)	-0.010** (0.002)	-0.002 (0.002)	-0.011** (0.002)	-0.003 (0.002)	-0.000 (0.002)	-0.003 (0.002)			
R <sup>2</sup>	0.155	0.153	0.160	0.150	0.143	0.160	0.161	0.141	0.178			
Observations	102,970	94,940	94,780	102,970	94,940	94,780	102,970	94,940	94,780			

Note. Nationally-representative weights are employed. Heteroskedastic-robust standard errors at the state level are in parentheses. Other teacher and school characteristics are included but not shown for parsimony. District fixed effects are employed. Sample sizes weighted to the nearest 10 in accordance with NCES non-disclosure rule.

+  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Source: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS)