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Successful Retention of New and Minority Teachers:

Results from the SASS and TFS

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Abstract

Teacher attrition continues to be problematic for schools, which is particularly troubling given the increasing demand for quality teachers. The purpose of this study is to explore factors related to the retention of two groups of teachers highly susceptible to attrition: new teachers and minority teachers. Data from the NCES Schools and Staffing Survey and Teacher Follow-Up Survey were analyzed with logistic regression. Variables shown in the literature to be related to teacher attrition were used to predict whether new and minority teachers continue teaching. Significant predictors included salary, sector, certification area, and release time for new teachers and certification area and gender for minority teachers. Implications of results are discussed.

Successful Retention of New and Minority Teachers:
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Retaining quality teachers is a challenging priority. The purpose of this study is to explore factors related to teacher retention for two groups that are highly susceptible to attrition: new teachers and minority teachers. Specifically, this study will compare new and minority teachers who remained in the teaching profession with those who left. The literature suggests a variety of factors that relate to attrition. Given the need for maintaining and expanding the pool of quality teachers in this time of accountability, examining the reasons for high attrition rates among minority teachers and new teachers is crucial. Developing an understanding of the factors that encourage new and minority teachers to remain in the profession may help administrators increase retention. Further, reducing attrition in these two key groups may greatly improve the stability of the educational environment.

Minority teachers and new teachers face numerous challenges in the schools. While all teachers are encumbered with increasing accountability demands, these common pressures are confounded by the unique challenges encountered by new and minority teachers. These obstacles can lead to job dissatisfaction and, ultimately, a decision to abandon teaching (Liu & Meyer, 2005). The literature suggests several possible factors that may create dissatisfaction among minority teachers and new teachers and prompt them to leave the field.

Financial compensation or salary is perhaps the most frequently cited reason for teacher dissatisfaction or attrition (e.g. Bobbitt, 1993; Certo & Fox, 2002; Futrell, 1999; Kane & Orsini, 2003; Liu & Meyer, 2005; Mercer & Evans, 1991; Weiss, 1999). Both new teachers and minority teachers may be apt to cite dissatisfaction with financial compensation. The research results, however, are mixed. Although some sources (Certo & Fox, 2002; Futrell, 1999; Kane & Orsini, 2003; Liu & Meyer, 2005; Mercer & Evans, 1991) suggest that salary is a primary source

of dissatisfaction or attrition for teachers, other sources (Betancourt-Smith, Inman, & Marlow, 1994; Bobbitt, 1993; Weiss, 1999) did not find financial compensation to be a significant factor.

Another common source of dissatisfaction among new and minority teachers is a lack of sufficient preparation for teaching (Darling-Hammond, 2000; Johnson & Birkeland, 2003; Mercer & Evans, 1991; Ruby, 2000; Weiss, 2001). New teachers may feel overwhelmed by the demands of actually teaching in the classroom, particularly if they are forced to teach outside of their certification area. For minority teachers, preparation may be a significant problem because minority teachers are more often in urban schools (Shen, Wegenke, & Cooley, 2003) where resources may be scarce and increased teaching skills necessary.

Behavior management is a related issue. New and minority teachers may more frequently find themselves in "difficult" classrooms (Bobbitt, 1993; Johnson & Birkeland, 2003; King, 1993a; Weiss, 1999). In challenging classrooms, adequate behavior management skills are often in greater demand than academic teaching skills. Since new and minority teachers tend to have more difficult classrooms, they may be more likely to feel that their behavior management skills are inadequate (Bobbitt, 1993; Haberman, 2000; Liu & Meyer, 2005; MacDonald, 1999; Meister & Melnick, 2003; Rosenholtz & Simpson, 1990). The related issues of preparation for teaching and behavior management skills for difficult classrooms may contribute largely to satisfaction and subsequently retention.

Several demographic variables may also impact the likelihood of teachers remaining in the field. Liu and Meyer (2005) found that sector (public school or private school) influenced the likelihood of attrition. Teachers in private schools were more likely to be satisfied with their jobs despite the lower base salary. Fewer student discipline problems and better working conditions may contribute to this increased satisfaction in private schools. Some results have suggested that

males were less likely to leave the teaching field than females (Kirby & Grissmer, 1993;Weiss, 1999), possibly due to the expanding career options that women have in the modern era. Another study, however, suggested that males might be less committed to teaching than females (Marso & Pigge, 1997). Each of these demographic variables will be explored for both new and minority teachers.

While some teaching challenges are common to both minority and new teachers, other obstacles are exclusive to one of these groups. Administrative support, for instance, may be extremely important to new teachers. New teachers' perceptions of administrative support are crucial to their decision to remain in the field (Bobbitt, 1993; Certo & Fox, 2002; Ingersoll, 2001; Johnson & Birkeland, 2003; Rosenholtz & Simpson, 1990; Weiss, 1999). Administrative support may come in many forms, including mentorship, common planning time, reduced first-year schedule, or release time. Teachers who enter the field and feel overwhelmed without receiving support to help them tackle challenging assignments will likely be more dissatisfied with their jobs.

Several factors are also unique to minority teachers' satisfaction with teaching. First, minority teachers are more likely to work in urban schools, where behavior problems tend to be more frequent and resources scarcer (Darling-Hammond, 2000; Haberman, 2000; King, 1993a; King, 1993b; Shen et al., 2003). Student problems also tend to be more challenging in urban schools, demanding greater classroom management and teaching skills. Data suggest that retaining quality teachers is more difficult in urban schools than in suburban or rural schools (Murphy, DeArmond, & Guin, 2003). Liu and Meyer (2005) found that minority teachers reported less satisfaction than non-minority teachers with student behavior and work conditions in the schools. Much of the research specific to minority teachers' satisfaction is dated, and it is

crucial that minority teachers' evolving challenges are monitored in order to increase retention in this group.

Examining the issues that lead to job dissatisfaction and subsequently teacher attrition is important in this time of increasing accountability. As fewer teachers abandon the field, educational stability should improve for students. Minority teachers and new teachers face several difficulties in addition to the challenges that all teachers face daily. New teachers may be especially vulnerable because they are meeting new challenges for the first time. Minority teachers often work in disadvantaged schools, where demands are greater and resources lesser. Increasing the diversity of the teaching workforce is important as the student population becomes increasingly diverse. As such, attending to problems unique to minority teachers is essential. Clearly, developing a better understanding of the challenges that these two groups face is fundamental to building a strong base of highly qualified teachers.

Methods

Instrumentation

Schools and Staffing Survey (SASS). The Schools and Staffing Survey was designed by the National Center for Education Statistics (NCES) to gather data on various topics pertaining to K-12 education. Both public and private school personnel complete the surveys, which involve four capacities: the Teacher Questionnaire, the Principal Questionnaire, the School Questionnaire, and the School District Questionnaire. Items cover a variety of topics, including school characteristics and conditions, resources, personnel perceptions and satisfaction, challenges in the schools, and demographic information. The majority of items for this study were taken from the Teacher Questionnaire.

Teacher Follow-Up Survey (TFS). The Teacher Follow-Up survey was designed by the NCES as a follow-up to the SASS. A sample of the teachers who completed the SASS are

administered the TFS the following year to provide information about their decisions to remain in the profession or to leave teaching. As such, the TFS has two separate forms: the Current Teacher questionnaire (for teachers who remained in the field) and the Former Teacher questionnaire (for respondents who left the field). The Current Teacher survey is administered to all teachers who remain in the field, whether they stayed in the same teaching position or moved to a different position.

Data

For the current study, public-use data from the National Center for Education Statistics (NCES) 1999-2000 Schools and Staffing Survey (SASS) and the 2000-01 Teacher Follow-Up Survey (TFS) were analyzed. Bureau of Indian Affairs Schools are not included in the public-use data. The dependent variable for both analyses was teacher status. The 2000-2001 TFS defines three status groups: (a) leavers – those teachers who left the profession or were not teaching in any grades K-12 after the 1999-2000 school year, (b) movers – those who were teaching in any grade K-12 during 2000-2001 but who had moved to a different school after the 1999-2000 school year, and (c) stayers – teachers who remained a teacher in a grade K-12 and also taught in the same school in 2000-2001 as they did in 1999-2000. For this paper, movers and stayers were combined into one group because the focus is on understanding why new and minority teachers stayed in the profession instead of leaving.

Respondents

New and minority teachers were the focus of this study. The SASS defines new teachers as those who have taught for three years or less. Minority teachers are defined as those who selected one of the following race and ethnicity groups (a) American Indian, or Alaskan Native, non-Hispanic, (b) Asian or Pacific Islander, non-Hispanic, (c) Black, non-Hispanic, or (d) Hispanic, regardless of race.

Only those respondents who completed both surveys (SASS and TFS) were included. All statistics were weighted by the TFS sampling weights (described below). The weighted total number of respondents was N = 3,425,917. Of these respondents, 87% were from public schools, 75% were female, and 15% were minorities. New teachers represented 17% of the sample, and the 40-49 year-old age group was the largest (30%). Respondents represented the Northeast (20%), Midwest (25%), South (36%), and West (18%) Census regions. The most frequent income range (total earnings) was $30,000-$39,999, but the most frequent school-only income was $20,000-$29,999. Regarding teacher status, 8% were leavers, 8% were movers, and 84% were stayers.

Procedure

Statistical model. Data were analyzed using logistic regression (see Agresti, 2002). Logistic regression is conceptually similar to regular multiple linear regression (or ordinary least squares regression) except that the outcome is a dichotomous variable. In this case, the analysis was carried out such that teachers could fall into one of two categories: "leaver" or "mover/stayer." The logistic regression coefficients (i.e. the beta weights, b) reflect the amount of influence that a predictor has on the outcome variable. For each predictor, b is computed as the likelihood of belonging to the group coded as "1" (in this case, "leaver"). More specifically, the b-values represent the probability of leaving divided by the probability of moving or staying. Since this value is somewhat difficult to interpret, b coefficients are converted to likelihoods by taking the natural log of the b values. This transformed value reflects how many times more likely a teacher is to leave (than to move/stay) on the basis of the predictor variable.

The logistic regression outcome variable was teacher status (i.e. stayer or leaver), and the explanatory variables are listed in Appendix A. The explanatory variables were selected according to findings from previous research. The purpose of this analysis was to identify

meaningful predictors of deciding to stay in the teaching profession. Two analyses were conducted, one for new teachers and one for minority teachers. Different explanatory variables were used in each analysis.

Sampling weights. The SASS and TFS use a complex sampling design to obtain a nationally representative sample. Schools were the primary sampling unit. Once schools were selected, teacher lists were obtained from each school. Teachers were then stratified into one of five groups (a) Teacher's race is reported as Asian or Pacific Islander, (b) Teacher's race is reported as American Indian Alaskan Native, (c) Teachers who teach classes designed for students with Limited-English proficiency, (d) Teachers in their first, second, or third year of teaching, or (e) Teachers not classified in any of the above groups. Teachers were sampled from each stratum but the probability of selection varied within each stratum according to the number of teachers within each sector (public or private). Sampling weights were established to account for the probability of selection in the sampling design and produce a nationally representative sample.

Standard Errors. Procedures for estimating the standard errors of the beta weights in a simple random sample tend to underestimate the standard errors in complex sampling designs (Tourkin et al., 2004). If a simple random sample is assumed when in actuality a complex sampling design was employed, the result is that confidence intervals are too narrow and hypothesis tests have Type I Error rates that exceed the nominal level. As a result, variables are identified as statistically significant when they may not actually be (i.e. an inflated Type I Error rate occurs). To overcome these problems, the SASS and TFS use a bootstrap procedure (Efron & Tibshirani, 1986) to obtain correct standard errors of the parameter estimates. Bootstrapping is done by repeatedly sampling the data with replacement and computing the statistic of interest

(e.g. a mean or logistic regression parameter) on each sample. The variance of the statistic across the repeated samples is the bootstrap variance estimate. The SASS and TFS use 88 bootstrap samples. Details about the particular bootstrap procedure used in the SASS and TFS, balanced replicate weights, are described in Kaufman (1998).

The AM software package (Cohen, 2004) was used for the analysis. AM was designed for analyzing data from complex surveys. It includes an option for obtaining the bootstrap standard errors designed for the SASS and TFS.

Results

Logistic regression analyses were conducted separately for new and minority teachers using the AM software package (Cohen, 2004). The AM software is specially designed to work with complex sampling weights, making it ideal for analyzing the NCES data. The list of SASS/TFS items that were used for each analysis can be found in Appendix A. Most of the variables used were common for the two analyses, but, as mentioned in the introduction, some unique predictors were used to predict the leaving or staying behavior of new and minority teachers. Each of the variables that were theoretically linked to the leaver/stayer outcome were entered into the logistic regression equation and the analysis was carried out in AM using the options for balanced replicate weights centered on the teacher final weight.

New Teacher Analysis

The new teacher analysis was conducted with the AM software using the complex sampling weights. Four of the 28 predictor variables entered into the logistic regression equation emerged as statistically significant (see Table 1). The predictor that had the strongest association with the decision to leave or stay was a demographic variable, sector (b= 0.985, p= .001). According to this analysis, private school teachers were approximately (exp (.985)=) 2.7 times more likely than public school teachers to leave the teaching field. This increase in likelihood

certainly seems large enough to have practical significance as well as statistical significance. The second-largest predictor for new teachers leaving the field was whether teachers receive release time for professional development activities (b= 0.466, p= .04). Surprisingly, new teachers who received release time for professional development were 1.59 times more likely to leave the field. Possible reasons for this unexpected finding will be discussed later. The third significant predictor of leaving the field for new teachers was reported base salary (b= -0.317, p= .004). As salary bracket increased, new teachers became .73 times more likely, or approximately three-fourths as likely, to leave the field. In other words, moving up in the salary bracket meant that teachers were less likely to stop teaching. The final significant variable was whether teachers had certification in their main teaching fields (b= -0.551, p= .05). Teachers who had certification in their main teaching field were .58 times more likely to leave the field, or only about half as likely to leave. In sum, according to this analysis, variables that seemed to predict a greater likelihood of new teachers leaving the field were teaching in a private school rather than a public school, receiving release time for professional development activities, earning a lower base salary, and being certified outside of their main teaching field.

Minority Teacher Analysis

The minority teacher analysis involved consideration of 21 predictor variables. Of those 21 variables, only two were statistically significant (See Table 2). The first significant predictor was gender (b= 0.822, p= .049). Based on this analysis, male minority teachers are more than twice as likely as female minority teachers to leave the field. The second significant variable was certification in the main teaching field (b= -0.662, p= .05). As with new teachers, minority teachers who were certified in their main teaching field were only about 0.5 times more likely, or half as likely, to leave the field.

Unweighted Analyses

Given that our findings were surprising and somewhat inconsistent with previous research, further analyses were conducted. The models for new and minority teachers described above were rerun using SPSS with the teacher final weight only. No replicate weights were used to correct the standard errors. This analysis was conducted to determine the extent to which not using the sampling weights would affect the results. The analyses using the replicate weights (conducted with AM) are correct, whereas the analyses conducted in SPSS will be flawed due to the uncorrected standard errors. Complete results can be seen in Appendix B.

New Teacher Analysis. The new teacher analysis was repeated in SPSS to compare the results using a more common statistical software package that is unable to accommodate the complex sampling design of the SASS and TFS surveys. As expected, the b coefficient estimates were equivalent in SPSS and the AM software, but the standard errors were much smaller in SPSS. The standard error estimates in SPSS are spuriously small because the sampling weights cannot be applied appropriately. As a result, when running this analysis in SPSS, every single predictor of the twenty-eight possible predictors emerged as statistically significant. Clearly, the program in which these analyses are run makes a great difference in statistical significance test results.

Minority Teacher Analysis. The minority teacher analysis was also conducted in SPSS. Of the 21 predictor variables, only one was not significant in the SPSS analysis (the student behavior problem of physical violence). Just as in the new teacher analysis, this large number of significant variables is due to the artificially small values for the standard errors of these variables. Again, it is clear how different results might have been found for this analysis if sampling weights had been applied incorrectly, as in the SPSS analysis.

Discussion

The results of this analysis have several important implications for administrators and teacher educators. The purpose of studying predictors of leaving the field of teaching is to explore what might be done to prevent teacher attrition. Of course, some factors are more under administrators' control than others. Ideally, retention research should highlight ways that administrators and teacher educators can promote staying in the teaching profession.

The new teacher analysis revealed four statistically significant variables: sector (public or private), release time for professional development activities, certification in their main teaching field, and salary. The finding for sector suggested that private school teachers were more likely to leave the field than public school teachers. This result should be explored further in future research to determine which aspects of teaching private school make new teachers more likely to leave. For instance, the greater likelihood of private school teachers leaving might be tied to the typically lower base salaries that private school teachers receive. Until more is known about why private school teachers are more inclined to leave the field, this result will not be maximally useful. Similarly, the finding that new teachers who receive release time for professional development activities are more likely to leave warrants further exploration. At face value, this finding is counterintuitive. There are a few possible hypotheses to explore in regards to this unexpected finding. This result might be emerging as an artifact of some statistical relationship, such as an untested interaction term between amount of experience and whether release time is received. Alternately, provision of release time for professional development might convey a strong position about expectations for professional development in a school—perhaps those schools granting release time are particularly stringent about development requirements.

Two variables with more immediately useful information are teacher salary and certification in the main teaching field. Clearly, the resources are not available to pay teachers a salary that is competitive with other fields. Examining what might make teachers wish to say in the field despite the low salary would be a worthwhile pursuit. For instance, particularly positive working conditions or interpersonal relationships might compensate for the low salary that teachers receive. Ensuring that teachers are certified in their main teaching field has already become a priority for hiring in the schools. Findings from this research study support the implementation of this policy as a means for reducing teacher attrition.

The minority teacher analysis also suggested a significant impact for certification in the main teaching field. Thus, the move toward enforcing certification in the primary teaching field should improve retention among minority teachers as well as among new teachers. In addition, gender also emerged as a significant predictor for minority teachers, with males being more likely to leave the field. Given the mixed findings regarding gender and attrition from previous research, it is difficult to hypothesize about why this result might have occurred. Teacher gender is not a variable that administrators or teacher educators can control. Thus, future research might focus on factors that might encourage minority males, in particular, to remain in the teaching field.

This study did not support the significance of many of the factors suggested in the literature. While some findings were supported, others were not. The differences in results might be based on different methodologies used in conducting research. One major difference is that some of the previous research used teachers' impressions about whether or not they would remain in the field rather than using actual retention data. It is quite possible that teachers are not able to make accurate estimations of whether or not they will remain in the teaching field.

In addition, this study also has important implications for future educational research. The comparison of results for this study using the AM software program and SPSS demonstrates that using the appropriate sampling weights is crucial with data from complex designs such as this one. If these data had been analyzed without the proper sampling weight design, the results would have been quite different. When comparing results of the current study with results from previous studies, it is important to ensure that the studies were carried out in the same way.

Moreover, it is crucial that educational researchers accurately report the statistical methodology they used to obtain their results. Comparing results from studies conducted differently may not be meaningful. Previous studies often do not specify that the proper sampling weights were implemented in the statistical analysis. As this study shows, if the analysis were carried out without those sampling weights, results of statistical significance could be misleading. The rigor with which research is conducted and reported must be maintained at a high level during this time of mandated research-based educational improvement.

Given the increasing diversification of the student population, it is crucial to retain as many qualified teachers as possible, particularly new and minority teachers, who are more susceptible to attrition. Identifying characteristics of new and minority teachers who stay in teaching will inform policy and facilitate the retention of these teachers. If teacher educators and school administrators understand factors that make new and minority teachers more likely to stay in teaching, they will be better able to accommodate these teachers and encourage them to remain in the field (Betancourt-Smith et al., 1994). Subsequently, the stability afforded through maintaining more teachers should improve the educational environment for students.

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Table 1

Significant Predictors for New Teachers

Variable	*b*	Standard Error	*p*	Exp(b)
Sector	0.985	0.291	.001	2.68
Release Time	0.466	0.244	.041	1.59
Amount of Pay	-0.317	0.107	.004	0.728
Certification in Main Field	-0.551	0.279	.052	0.576

Table 2

Significant Predictors for Minority Teachers

Variable	*b*	Standard Error	*p*	Exp(b)
Gender	0.822	0.413	.049	2.28
Certification in Main Field	-0.662	0.339	.054	0.516

Appendix A

Explanatory Variables from the Schools and Staffing Survey

Financial Compensation- Minority Teachers and New Teachers

Do you agree or disagree with each of the following statements?

I am satisfied with my teaching salary.

What is your academic year base teaching salary?

[Did you receive] full or partial reimbursement of college tuition?

Preparation/Professional Development- Minority Teachers and New Teachers

Do you agree or disagree with each of the following statements?

I am given the support I need to teach students with special needs.

Do you have a teaching certificate in this state in your MAIN teaching assignment field?

How long did your practice teaching last?

Difficult Classrooms/Behavior Management- Minority Teachers and New Teachers

In your first year of teaching, how well prepared were you to-

Handle a range of classroom management or discipline situations?

Were [classes with discipline problems] part of your first-year teaching assignment?

To what extent is each of the following a problem in this school? Indicate whether it is a serious problem, a moderate problem, a minor problem, or not a problem in this school.

Physical conflicts among students

Robbery or theft

Vandalism of school property

Student pregnancy

Student use of alcohol

Student drug abuse

Student possession of weapons

Student apathy

Poverty

Students coming to school unprepared to learn

Poor student health

Administrative Support- New Teachers

Did you receive the following kinds of support during your first year of teaching?

Reduced teaching schedule

Common planning time with teachers in your subject

Regular supportive communication with your principal, other administrators or department chair

For the professional development in which you participated in the last 12 months, did you receive [Release time from teaching]?

(i.e., your regular teaching responsibilities were temporarily assigned to someone else)

In your first year of teaching, did you work closely with a master or mentor teacher?

Do you agree or disagree with each of the following statements?

Routine duties and paperwork interfere with my job of teaching.

Resources/School Condition- Minority Teachers

Do you agree or disagree with each of the following statements?

Necessary materials such as textbooks, supplies, and copy machines are available as needed by staff.

I am satisfied with my class size(s).

Of all students you teach at this school, how many are of limited-English proficiency?

Appendix B

Complete Results for New and Minority Teacher Analyses

New Teacher Analysis: AM Software

Parameter Name	Estimate	Standard Error	t Statistic	p > |t|
Constant	-0.867	0.77	-1.127	0.263
Agree-satisfied w/salary	-0.135	0.102	-1.329	0.187
Sch yr-amount tchr pay	-0.317	0.107	-2.954	0.004
Reimbursement for tuition	-0.336	0.281	-1.198	0.234
Agree-spec needs stu	0.104	0.13	0.8	0.426
Cert-main field	-0.551	0.279	-1.973	0.052
Practice tching	-0.157	0.102	-1.542	0.127
1st yr-classrm mngmnt	-0.148	0.13	-1.138	0.258
1st yr-discplne prob class	0.085	0.272	0.313	0.755
1st yr-reduced sched	-0.071	0.323	-0.221	0.825
1st yr-common planning	0.027	0.251	0.108	0.914
1st yr-supportive comm	-0.076	0.275	-0.276	0.783
1st yr-mentor	0.058	0.228	0.252	0.801
Release time	0.466	0.224	2.077	0.041
Agree-oth duties interfere	-0.039	0.111	-0.352	0.726
Problem-phys conflicts	0.026	0.144	0.182	0.856
Problem-theft	0.068	0.207	0.327	0.744
Problem-vandalism	-0.153	0.199	-0.772	0.442
Problem-student pregnancy	0.113	0.182	0.62	0.537
Problem-alcohol use	-0.549	0.324	-1.696	0.093
Problem-drug abuse	0.318	0.355	0.897	0.372
Problem-weapons	0.163	0.221	0.739	0.462
Problem-student apathy	0.163	0.188	0.865	0.389
Problem-unprepared students	0.231	0.208	1.11	0.27
Problem-poverty	-0.089	0.198	-0.447	0.656
Problem-student health	-0.016	0.222	-0.072	0.943
NEWSEC	0.985	0.291	3.384	0.001
MINORITY	-0.304	0.368	-0.826	0.411
NEWGENDE	-0.312	0.27	-1.152	0.252

New Teacher Analysis: SPSS

Parameter Name	B	Standard Error	Sig.	Exp(B)
Agree-satisfied w/salary	-.135	.005	.000	.873
Sch yr-amount tchr pay	-.317	.005	.000	.728
Reimbursement for tuition	-.336	.013	.000	.714
Agree-spec needs stu	.104	.005	.000	1.110
Cert-main field	-.551	.012	.000	.576
Practice tching	-.157	.004	.000	.855
1st yr-classrm mngmnt	-.148	.006	.000	.863
1st yr-discplne prob class	.085	.010	.000	1.089
1st yr-reduced sched	-.071	.015	.000	.931
1st yr-common planning	.027	.010	.005	1.028
1st yr-supportive comm	-.076	.012	.000	.927
1st yr-mentor	.058	.010	.000	1.059
Release time	.466	.009	.000	1.593
Agree-oth duties interfere	-.039	.005	.000	.962
Problem-phys conflicts	.026	.007	.000	1.027
Problem-theft	.068	.008	.000	1.070
Problem-vandalism	-.153	.008	.000	.858
Problem-student pregnancy	.113	.008	.000	1.119
Problem-alcohol use	-.549	.011	.000	.577
Problem-drug abuse	.318	.011	.000	1.375
Problem-weapons	.163	.011	.000	1.177
Problem-student apathy	.163	.006	.000	1.177
Problem-unprepared students	.231	.007	.000	1.260
Problem-poverty	-.089	.007	.000	.915
Problem-student health	-.016	.008	.036	.984
NEWSEC	.985	.014	.000	2.679
MINORITY	-.304	.013	.000	.738
NEWGENDE	-.312	.010	.000	.732
Constant	-.867	.043	.000	.420

a Variable(s) entered on step 1: T0301, T0347, T0182, T0314, T0103, T0128, T0129, T0146, T0137, T0139, T0142, T0147, T0179, T0305, T0325, T0326, T0327, T0328, T0329, T0330, T0331, T0334, T0337, T0336, T0338, newsec, minority, newGender.

Minority Teacher Analysis: AM Software

Parameter Name	Estimate	Standard Error	t Statistic	p > |t|
Constant	-3.915	1.298	-3.017	0.003
Agree-satisfied w/salary	-0.11	0.145	-0.759	0.45
Sch yr-amount tchr pay	0.027	0.126	0.217	0.829
Reimbursement for tuition	-0.29	0.391	-0.741	0.461
Agree-spec needs stu	0.056	0.199	0.283	0.778
Cert-main field	-0.662	0.339	-1.954	0.054
Agree-satisfied class sz	0.023	0.163	0.141	0.888
LEP students	-0.009	0.014	-0.628	0.532
Agree-adequate materials	0.258	0.21	1.227	0.223
Problem-phys conflicts	0.015	0.268	0.057	0.955
Problem-theft	-0.278	0.286	-0.973	0.333
Problem-vandalism	0.274	0.264	1.038	0.302
Problem-student pregnancy	-0.05	0.265	-0.187	0.852
Problem-alcohol use	-0.385	0.354	-1.088	0.28
Problem-drug abuse	0.584	0.345	1.692	0.094
Problem-weapons	0.244	0.338	0.722	0.472
Problem-student apathy	-0.067	0.208	-0.324	0.747
Problem-unprepared students	0.287	0.271	1.062	0.291
Problem-poverty	-0.18	0.208	-0.866	0.389
Problem-student health	-0.261	0.212	-1.228	0.223
NEWSEC	0.502	0.4	1.254	0.213
NEWGENDE	0.822	0.412	1.996	0.049

Minority Teacher Analysis: SPSS

Parameter Name	B	Standard Error	Sig.	Exp(B)
Agree-satisfied w/salary	-.110	.006	.000	.896
Sch yr-amount tchr pay	.027	.005	.000	1.028
Reimbursement for tuition	-.290	.019	.000	.748
Agree-spec needs stu	.056	.006	.000	1.058
Cert-main field	-.662	.016	.000	.516
Agree-satisfied class sz	.023	.006	.000	1.023
LEP students	-.009	.000	.000	.991
Agree-adequate materials	.258	.007	.000	1.294
Problem-phys conflicts	.015	.008	.070	1.015
Problem-theft	-.278	.010	.000	.757
Problem-vandalism	.274	.009	.000	1.316
Problem-student pregnancy	-.050	.010	.000	.952
Problem-alcohol use	-.385	.014	.000	.680
Problem-drug abuse	.584	.014	.000	1.794
Problem-weapons	.244	.014	.000	1.276
Problem-student apathy	-.067	.007	.000	.935
Problem-unprepared students	.287	.009	.000	1.333
Problem-poverty	-.180	.008	.000	.835
Problem-student health	-.261	.009	.000	.771
NEWSEC	.502	.020	.000	1.652
NEWGENDE	.822	.016	.000	2.275
Constant	-3.915	.051	.000	.020

a Variable(s) entered on step 1: T0301, T0347, T0182, T0314, T0103, T0315, T0249, T0304, T0325, T0326, T0327, T0328, T0329, T0330, T0331, T0334, T0337, T0336, T0338, newsec, newGender.