Educational Considerations

Volume 35 | Number 2 Article 3

4-1-2008

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Recommended Citation

Zhang, Zhijuan; Verstegen, Deborah A.; and Kim, Hoe Ryoung (2008) "Teacher Compensation and School Quality: New Findings from National and International Data.," *Educational Considerations*: Vol. 35: No. 2. https://doi.org/10.4148/0146-9282.1187

Teacher Compensation and School Quality: New Findings from Nationl and International Data

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Introduction

High quality education is critical to both the individual and the nation. At the country level, as Ireland's minister for education and science, put it, "The never ending search for competitive advantage in the global knowledge economy has led all public policymakers to focus on education as a key factor in strengthening competitiveness, employment and social cohesion."[1] At the individual level, a student's cognitive achievement is a good predictor of his or her future earnings.[2]

Compelling evidence shows that the quality of education a school offers influences student achievement.[3] Among all variables, teacher quality is the single most important school-related factor affecting student academic achievement.[4] Teacher quality is at least as important, if not more so, than the socioeconomic status of student family in influencing student academic attainment.[5] How teachers perform in their classrooms can counteract the negative effects of social, cultural, or human capital.[6]

However, education is challenged by high teacher turnover rates.[7] The most recent data project that among the 2.2 million new teachers, 666,000 (30%) will leave sometime during their first three years of teaching, and one million (45%) will turn over within the first five years of their teaching career. Teacher turnover is especially problematic in math and science and in many small, high-poverty rural schools.[8] High teacher turnover rates affect both teacher quantity and quality. When facing a teacher shortage, many school districts either hire underqualified teachers or assign teachers to teach out-of-field. This erodes teacher quality.

Teacher turnover also touches upon issues of social justice and fairness. While research shows that teacher quality matters particularly for students with special needs, low income, low achieving, and minority students are most susceptible to being left in the hands of teachers with lesser skills and knowledge of teaching.[9] Teachers of these students are more likely to leave when they have obtained some teaching experience.[10] Although out-of-field teaching is widespread, classes in high poverty schools are 77% more likely to be taught by an out-of-field teacher and staffed with more inexperienced teachers than classes in low poverty schools.[11]

Around the world, teacher salaries are an important indicator of national or state education priorities and investment. Between 64% and 80% of funding invested in public education is used for paying educational personnel in the OECD[12] countries and in the United States, respectively.[13] In 2002 alone, the United States invested $192 billion in teacher pay and benefits.[14] Yet only a few national and fewer international studies have addressed the relationship between teacher salaries and school quality in terms of teacher retention and student achievement. Among them, mixed findings have been found in the U.S. studies,[15] and no evidence has been found supporting a clear relationship across countries between teacher salaries and student achievement.[16] In addition, fewer national and international studies have addressed the relationship between teacher salaries and teacher retention. More often than not, these studies use data for only one specific U.S. state or city limiting generalizability.[17]

Are teacher salaries related to school quality in terms of student academic achievement and teacher retention? Are teacher salaries important factors influencing teacher job satisfaction? Is teacher job satisfaction related to retention? This research addressed these questions using international and national data. First, the literature will be briefly reviewed, and then the method and findings will be presented. The final section includes a discussion and implications of the research for practice.

Review of Related Literature

Teacher Salaries and Student Academic Achievement

Among the limited number of studies pertaining to the direct relationship between teacher salary and student academic achievement, mixed findings have been produced. In an examination of extant studies, Hanushek, writing on whether money matters in education—either as a function of teacher salaries, pupil-teacher ratio, equipment or facilities--found it did not.[18] Verstegen and King, examining only those studies with statistically significant findings, found a statistically significant and positive association between teacher salaries and student achievement.[19] They noted that Hanushek reached his conclusions by counting both statistically significant and insignificant studies, a method not endorsed by most researchers. Loeb and Page found a strong impact of teacher salary on teacher quality and argued that "even if school districts are unable to identify teacher quality, one would expect the supply of high-ability teachers to increase with teacher wages."[20] They found that previous research did not control for alternative labor market opportunities and non-pecuniary school district characteristics, and resulted in mixed findings.

Despite their limited number, some international studies do address the relationship between the two. For example, Barro and Lee, taking advantage of newly constructed panel datasets which included educational inputs and outputs from a broad number of countries, found that the average salary of primary school teachers has a positive and significant relationship with test scores.[21] However, most international studies pertaining to the relationship between teacher salaries and student academic achievement have found no clear positive link between teacher salaries and student achievement.[22]

Teacher Salaries, Teacher Job Satisfaction, and Teacher Retention

Much of the previous research on teacher retention, whether applying a national or an international model, shares the misassumption

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that "the attrition rate of the existing stock of teachers is insensitive to salaries, and does not vary across subject areas, across regions, or over time."[23] Following this logic, classic job satisfaction theories emphasize non-pecuniary versus pecuniary rewards as does early research in the field. For example, Choy and her colleagues stated that very few people enter the teaching profession for external rewards such as salary, benefits, or prestige.[24] Lortie noted that the teaching profession has long been regarded as having a halo of moral commitment and further observed that the culture of the teaching profession and the structure of rewards de-emphasize extrinsic rewards and encourage intrinsic rewards.[25] Sergiovannni[26] and Dinham and Scott[27] found that teacher salary is a hygiene factor, a factor that only prevents job dissatisfaction but does not generate job satisfaction.[28]

Moreover, only a small proportion of teacher turnover is found to relate to teacher job satisfaction, which Ostroff attributed to the fact that most former studies were analyzed at the individual level while turnover is more a phenomenon of an organization.[29] His work showed that teacher job satisfaction has a robust association with retention when data were aggregated at the organizational level. However, whether this finding occurs at higher levels of aggregation is still unknown.

Although the new wave of research has made a breakthrough by concluding that higher salaries are associated with lower teacher attrition, it is still mainly based on cross-sectional data instead of national data, making generalizability difficult. Meanwhile, most of the reported effects of teacher salaries found in the research have been derived from coefficients on salary in turnover analyses.[30] Some new research has managed to analyze the relationship between teacher salaries and teacher retention using national longitudinal data and more advanced analytical techniques, such as Shen's 1997 study and Ingersoll's 2001 study.[31] Surprisingly, even using the same data, their findings pertaining to the effect of teacher salaries on teacher retention were dissimilar. For example, Shen found that the annual salary for all teachers and the salary for senior members influenced teacher retention. Conversely, Ingersoll showed that after controlling for administrative support, student discipline, higher levels of faculty decisionmaking influence, and autonomy, teacher salaries became insignificant at the 90% confidence level. Kelly, in a more recent study of teachers in the 1990-1991 Schools and Staffing Survey and the 1991-1992 Teacher Follow-up Survey, found that for the majority of the teaching career, salaries are positively related to teacher retention although the effect is stronger in the early years. This research seeks to clarify these relationships.[32]

Methodology

This study addressed the question of whether teacher salaries relate to school quality in terms of teacher retention and student achievement, and, if so, how. It further examined whether teacher job satisfaction is a strong mediator between teacher salaries and teacher retention.

Two data sources were used for the analysis. The first one was the longitudinal national dataset from the 1999-2000 School and Staffing Survey (SASS) and the 2000-2001 Teacher Follow-Up Survey (TFS), sponsored by the National Center for Education Statistics (NCES). The SASS is the largest national dataset pertaining to teachers, administrators, and the general conditions of American elementary and secondary schools. The TFS has become an inseparable part of SASS: Teachers that responded to the SASS are followed and surveyed a year after each administration of the SASS. The purpose of the TFS is to track teachers after the SASS school year, including those who have changed schools, left teaching, or stayed in the same school, i.e. stayers, movers, and leavers, respectively.

The second data source was the Programme for International Student Assessment (PISA), which provides internationally comparable evidence on student academic achievement in the year 2000. The PISA was jointly developed by participating countries and administered to 15-year-old students in schools in OECD countries. Since the PISA survey provides little information on teacher salary and educational expenditures, 2000 salary data were downloaded from the OECD web site.[33]

For the purpose of this study, the U.S. population was limited to public school teachers who taught students in grades K-12 in school year 1999-2000. Only teachers who answered both the SASS and TFS and stayed at their schools were included in the analysis. The sample size for the dataset was 2,894. We hypothesized that teacher salary is associated with teacher general job satisfaction, which results in teacher retention, an important measure of school quality or school effectiveness. Because the literature suggests that school climate, school poverty, and teacher professional growth also affect teacher job satisfaction, they were entered into the model.

Twenty-eight OECD countries and four non-OECD countries participated in the 2000 PISA assessment. The sample size was 26 countries,[34] with Luxembourg and Poland deleted from the analysis due to lack of data and the small sample size. The mathematic scores of students from the OECD were obtained from the PISA dataset by teacher and then aggregated at the country level. The teacher salary variable was measured by the ratio of national average teacher salary after 15 years of experience to the national average teacher starting salary in 2000. Salaries for any position of 20 hours of more per week were included, as were any bonuses. We hypothesized that this ratio has substantial influence on student academic achievement. Teacher salaries were converted to equivalent U.S. dollars and adjusted using Purchasing Power Parities.[35]

The data analysis procedure was divided into two stages: (1) structural equation modeling analysis of SASS data at a national level; and (2) regression analysis of PISA and its supplementary teacher salary data at an international level.

Analysis and Findings

U.S. Individual Teacher Analysis[36]

In the first stage, data were weighted by TFS final weights as suggested by NCES to ensure sampled teachers are representative of the K-12 public population. A preliminary analysis was conducted to determine the measurement model, which focused mainly on the relationship between latent variables and their indicators by factor analyzing all the items measuring the same latent variables. SPSS statistical software was used for this analysis. Variables that had double loadings on various factors and that had low commonalities on all factors were deleted.

The baseline model was trimmed based on the results of the factor analysis to include:

(1) school climate, as measured by teacher autonomy, teacher participation in decision making, student school conduct, principal leadership, teacher collegiality, and class attendance;

(2) professional growth, as measured by professional development in content teaching, professional development in performance standards, professional development in teaching method, professional

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DOI: 10.4148/0146-9282.1187

Table 1
Correlation Matrix

	x1	x2	x3	x4	x5	x6	x7	y1	y2	y3	y4	y5	y6	y7	y8	y9	y10
x1	1.000																
x2	.335	1.000															
x3	.048	.180	1.000														
x4	.260	.457	.318	1.000													
x5	.114	.307	.365	.589	1.000												
x6	.083	.200	.594	.282	.282	1.000											
x7	-.100	-.037	-.071	-.008	.017	-.155	1.000										
y1	.138	.159	.138	.179	.070	.116	-.151	1.000									
y2	.031	.110	.075	.114	.174	.040	.060	-.053	1.000								
y3	-.026	.062	.030	.058	.060	.024	.060	-.117	.389	1.000							
y4	-.008	.081	.046	.033	.053	.000	.060	-.014	.201	.213	1.000						
y5	-.034	.062	-.011	.032	.064	-.043	.108	-.063	.224	.273	.252	1.000					
y6	.029	.143	.046	.127	.106	.092	.065	-.027	.133	.109	.209	.116	1.000				
y7	.187	.237	.265	.309	.222	.200	-.015	.161	.096	.053	.030	.037	.016	1.000			
y8	.186	.222	.152	.202	.140	.118	-.032	.252	.037	.050	.042	.006	-.006	.367	1.000		
y9	.080	.123	.099	.121	.081	.048	.000	.122	.077	.086	.017	.011	.022	.194	.373	1.000	
y10	.020	-.006	.021	-.012	-.004	.045	-.008	.026	.052	.063	.042	.030	-.005	.032	.062	.135	1.000

Where: x1= teacher autonomy; x2=teacher participation in decision making; x3=student behavior; x4=principal leadership; x5=teacher collegiality; x6= school discipline; x7= school poverty; y1=perception of teacher compensation; y2 = professional development in contents; y3=professional development in standards; y4= professional development in methods; y5= professional development in student Assessment; y6= professional development in discipline; y7= feel it a waste of time to try to do one's best as a teacher; y8= will or will not to become a teacher if one can start over again; y9= the length one plans to remain in teaching; y10=teacher retention.

development in student assessment, and professional development in student behavior;

(3) Teacher job satisfaction, as measured by asking whether a teacher regards teaching as a waste of time, whether one would become a teacher again if he or she had an opportunity to start over, and the length one plans to remain in teaching;

(4) teacher salary;

(5) school poverty;

(6) teacher retention.[37]

All Cronbach coefficients were found to be over .700, indicating very good reliability. One change suggested by the modification index and factor loadings was that teacher autonomy was not a school climate indicator. Regarding its importance in teacher job satisfaction literature, it was retained in the model as a latent factor independent of school climate. Correlation coefficients of the indicators are listed in Table 1. After modifying the baseline model, adequate model fit was achieved:

$\Delta X2$=854.194, Δdf=1, $p<.05$;

GFI (goodness of fit index)=.964;

AGFI (adjusted goodness of fit index) =.943;

CFI (comparative fit index)=.892;

RMSEA (root mean square error of approximation) =.056.

Moreover, all parameter estimates and standard errors were found to be reasonable. Figure 1 shows the streamlined model and the influence of the factors on teacher job satisfaction and retention.

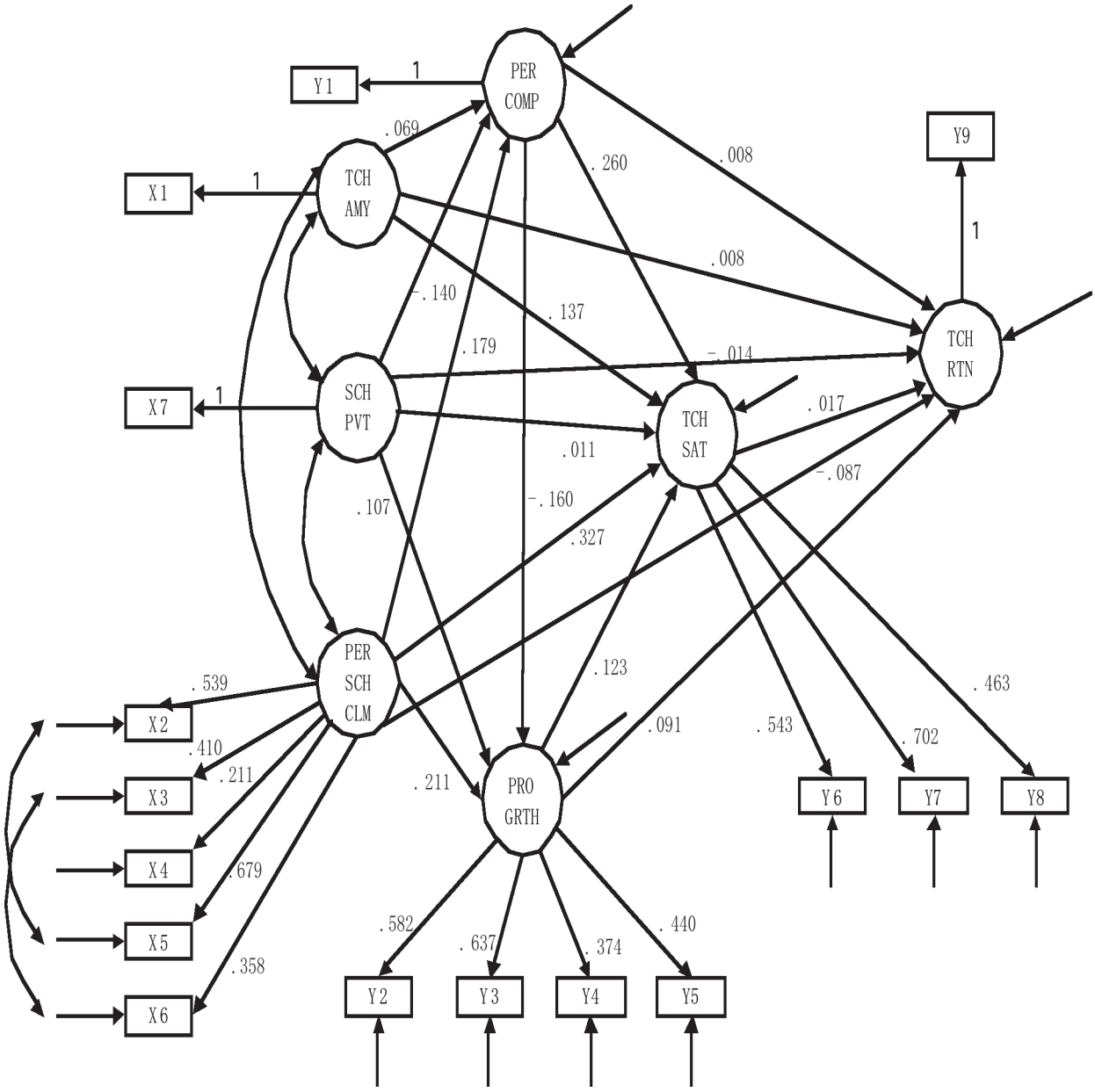
The results showed that approximately 28.6% of the variance of teacher job satisfaction and 2% of the variance of teacher retention was explained by the model. School climate, teacher autonomy, teacher salary, and professional growth had direct and positive effects on teacher job satisfaction. Teacher salary was the second best predictor of teacher job satisfaction with a standardized direct effect of .260, next only to the effect of school climate which was .327. This means that each time when teacher salary goes up by 1, teacher job satisfaction increases by .260 in the model. As related to teacher retention, teacher job satisfaction was found to be the best predictor with a standardized direct effect of .134 in the model. However, no direct association was found between teacher salary and teacher retention.

The path from teacher salary to teacher job satisfaction was further examined by using multigroup analysis to see whether the effect would be impacted by teacher gender, age, years of teaching experience, highest educational degree, and main teaching field. Moreover, some contextual factors suggested by the literature such as school level (elementary or secondary), school size (big or small), and school locality (urban or rural), were also examined.[38]

No differences in the influence of teacher salary on teacher job satisfaction were found across teachers with differences in length of teaching experience, highest educational degree, or main teaching

Figure 1

Job Satisfaction and Retention Model with Data (Without Movers)



Where: TCH AMY = Teacher Autonomy; SCH PVT = School Poverty; PER SCH CLM = Perception of School Climate; PRO GRTH = Professional Growth; PER COMP = Perception of Compensation; TCH SAT = Teacher Job Satisfaction; TCH RTN = Teacher Retention; X1=Teacher Autonomy; X2=Teacher Participation in Decision Making; X3=Student behavior; X4=Principal Leadership; X5=Teacher Collegiality; X6= Class Attendance; X7= School poverty; Y1=Perception of Teacher Compensation; Y2 = Professional Development in Contents; Y3 =Professional Development in Standards; Y4= Professional Development in Methods; Y5= Professional Development in Student Assessment; Y6= Feel it a waste of time to try to do one's best as a teacher; Y7=Will or not to become a teacher if one can start over again; Y8= The length one plans to remain in teaching; Y9=Teacher Retention.

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DOI: 10.4148/0146-9282.1187

fields. No differences were found across teachers in schools of different levels, sizes, or locations. However, paths from teacher salaries to teacher job satisfaction were found not to be equivalent across teachers at different ages and with different lengths of teaching experience. The path is equivalent across the group of teachers with over 5 years but less than 20 years teaching experience and the group of teachers with over 20 years teaching experience. Therefore, these two groups were combined into one group, namely, teachers with over 5 years teaching experience. Although the finding that teacher salaries were good predictors of teacher job satisfaction remained robust, the degree of association between teacher salaries and teacher job satisfaction differed across the group of teachers with 5 years or less teaching experience and the group of teachers with more than 5 years teaching experience. As shown in Table 2, compared to teachers with over 5 years teaching experience, teachers with 5 years or less teaching experience were less likely to be dissatisfied by low teacher salaries.

Also the data showed that the association between teacher salaries and teacher job satisfaction was significant across all age groups, but the degree of association differed across teachers less then 50 years old and teachers of 50 years or more. (See Table 3.) Although for all teachers, teacher salary was significantly associated with job satisfaction, the association was less strong for teachers 50 years and over. For these teachers, every change in teacher salary was only associated with a change of .091 in teacher job satisfaction while the association between these two variables for the other two groups was .138. This means that, compared to other teachers, teacher salary was less important to the job satisfaction of teachers 50 and over.

Based on the research results, a post-hoc analysis was conducted. Together with teacher salary, teacher participation in decisionmaking, principal leadership, student discipline, student preparedness to learn, and teacher collegiality were entered in the model. Teacher salary and each of the school climate factors were hypothesized to directly affect teacher job satisfaction and teacher retention.

The model fit the data adequately:

$\Delta X2$= 537, Δdf=21, $p<.05$;

GFI (goodness of fit index)=..935;

AGFI (adjusted goodness of fit index) =.918;

CFI (comparative fit index)=.909;

RMSEA (root mean square error of approximation)=.052.

The results are presented in Figure 2. Findings showed that teacher salaries and teacher participation in decisionmaking were the two most important determinants of teacher job satisfaction. The difference between them was 0.003, which is insignificant.

Table 2
Group Comparison of Effects of Teacher Salary on Teacher Job Satisfaction Based on Length of Teaching (in Years)

Group Comparison	Between Group Differences	
Group1 Group 2	No	
Group 2 Group 3	Yes	b = .122*
		b = .133*
Group 1 Group 3	Yes	b = .097*
		b = .133*

*P < .05
Where: Length of teaching experience for Group 1> 5 years; Group 2>5 years and < 20 years; and Group 3>20 years.

Table 3
Group Comparison of Effects of Teacher Salary on Teacher Job Satisfaction Based on Age

Group Comparison	Between Group Differences	
Group1 Group 2	No	
Group 2 Group 3	Yes	b = .139*
		b = .093*
Group 1 Group 3	Yes	b = .138*
		b = .093*

*P < .05
Where: Age for Group 1<40 years; Group 2>40 and ≤50 years; and Group 3>50 years.

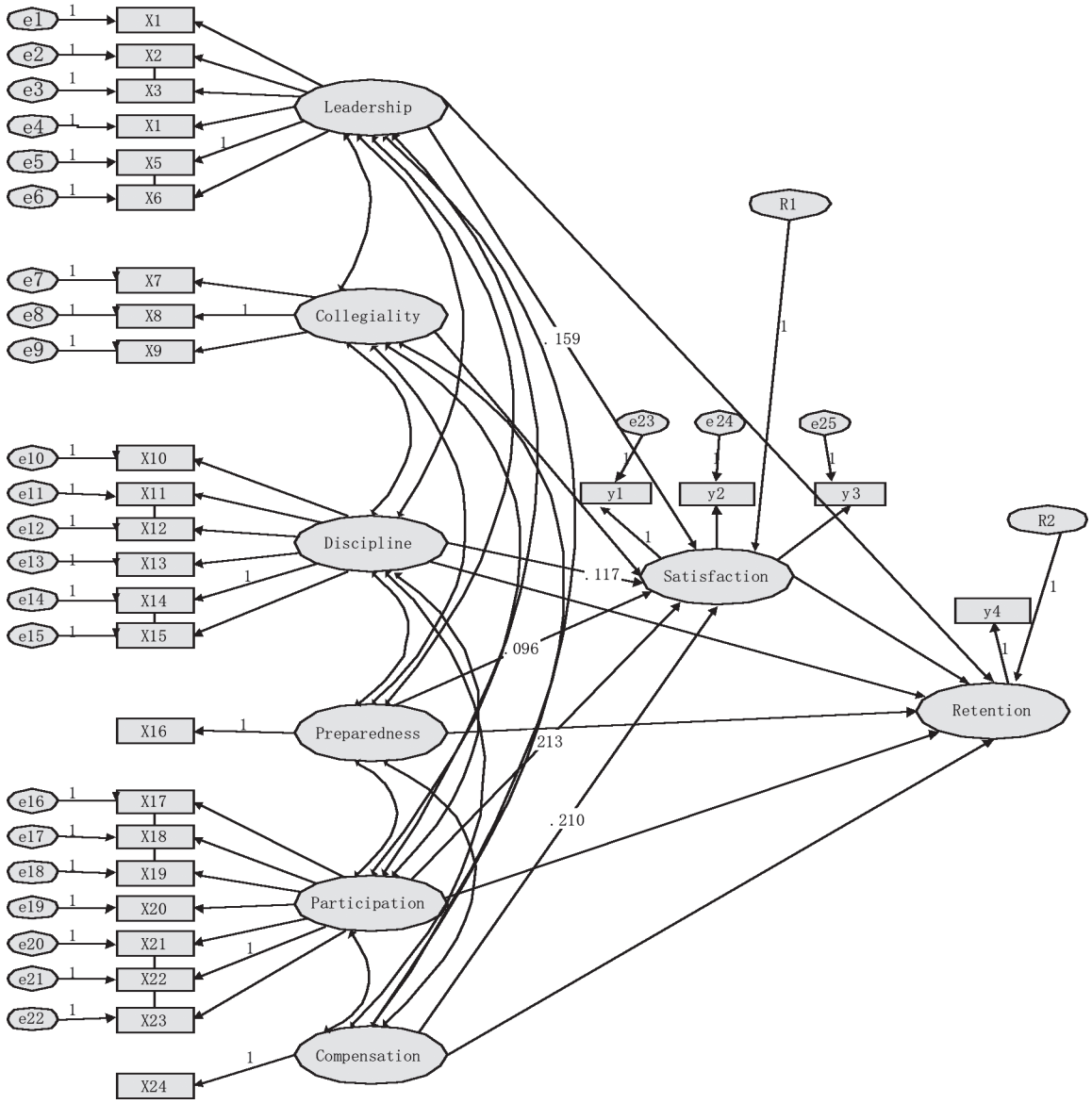
OECD Analysis[39]

International data from OECD countries including teacher salary data were analyzed at this stage to determine the relationship between teacher salary and student achievement. Descriptive statistics for the independent variables and dependent variable are presented in Table 4. Canada, Netherlands, and New Zealand had some missing data, and these descriptive statistics were computed by list-wise deletion. Table 4 shows a large range between minimum teacher salary and maximum teacher salary, and between minimum expenditure on lower secondary education per student and maximum expenditure on lower secondary education per student. For example, maximum teacher salary was about seven times greater than minimum salary in both starting teacher salary and teacher salary after 15 years of experience. Maximum educational expenditure per student was also about seven times as much as minimum educational expenditures per student across 26 OECD member countries.

Correlation coefficients presented in Table 5 indicate that national average math test scores were highly correlated with the ratio of teacher salary after 15 years of experience to teacher starting salary ($r = .450$; $p \leq 0.05$). Moreover, it also showed that national average math test scores were more strongly related to teacher salary after 15 years of experience ($r = .438$; $p \leq 0.05$) than teacher starting salary ($r = .224$; $p \leq 0.05$). As in the United States, teacher salary is a major portion of expenditure per student in the OECD countries, and Table 5 also shows that there was a strong correlation between expenditure per student on lower secondary education and teacher starting salary ($r = .598$; $p \leq 0.05$) and teacher salary after 15 years of experience ($r = .520$; $p \leq 0.05$).

Table 6 presents the results of a regression model where the dependent variable was mean national math test scores and the

Figure 2
Post-hoc School Climate and Compensation Model



Where: Leadership=Principal Leadership; Collegiality=Teacher Collegiality; Discipline=Student Discipline; Preparedness=Student Preparedness To Learn; Participation=Teacher Participation In Decision Making; Compensation= Teacher Perceived Compensation; Satisfaction=Teacher Job Satisfaction; Retention=Teacher Retention.

independent variables were expenditure per student on lower secondary education and the ratio of teacher salary after 15 years of experience to teacher starting salary. The independent variables accounted for about 50% of the variance in national math test scores among the 26 OECD countries. Based on the F-test, regression coefficients were determined to be statistically significant: b_1: $F_{1, 23}$ = 12.21, p≤ 0.05; b_2 : $F_{1, 23}$ = 11.83, p≤ 0.05.

The results indicated that if everything else were equal, for every one standard deviation unit change in the ratio of teacher salary after 15 years of experience to teacher starting salary, a .548 standard deviation unit change in national mean math test scores in the same direction would be expected. Similarly, if everything else were equal, for every one standard deviation unit change in expenditure per student on lower secondary education, a .539 standard deviation unit changes in national mean math test scores would be expected in the same direction. Thus, these results suggest that compensating experienced teachers adequately and overall level of per pupil expenditure predicted higher student academic achievement in secondary math across countries.

The unique contribution of each b_1 and b_2 in accounting for the proportion of variance in national mean math test scores was investigated by conducting hierarchical modeling. Hierarchical modeling compares the full regression model with all predictors to a reduced regression model with fewer predictors than the full model. Based on the results of hierarchical modeling, the unique contribution of b_1 and b_2 in accounting for the variance in national mean math test scores was 28.3 % and 21.4 %, respectively. The F-test showed that the unique contributions of b_1 and b_2 were both statistically significant:

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DOI: 10.4148/0146-9282.1187

Table 4
Descriptive Statistics of Variables in OECD Analysis

Variables	N	Minimum	Maximum	Mean	Standard Deviation
National teacher starting salary	25	6,340	41,358	23,980.32	7,732.72
National teacher salary after 15 years of experience	25	8,957	54,852	32,722.42	10,339.84
Ratio of teacher salary after 15 years of experience to teacher starting salary	25	1.11	1.93	1.37	22.02
Expenditure on lower secondary education per student	25	1,289	8,934	5,877.60	1,941.60
National average math test scores	25	387	557	503.32	37.38

Table 5
Correlation Matrix of Variables in the OECD Analysis

Variables	Starting Salary	Salary after 15 Years of Experience	Country Mean Math Scores	Expenditure Per Student on Lower Secondary Education	Ratio of Salary after 15 Years of Experience to Starting Salary
Starting Salary	1.000				
Salary after 15 Years of Experience	.882**	1.000			
Country Mean Math Scores	.224	.438*	1.000		
Expenditure on Lower Secondary Education Per Student	.598**	.520**	.462*	1.000	
Ratio of Salary after 15 Years of Experience to Starting Salary	-.209	.267	.450*	-.161	1.000

*P ≤ .05.
**P ≤ .01.

Table 6
Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Signigficance
	B	Std. Error	Beta		
Constant	315.120	43.589		7.229	.000
b_1	.011	.003	.548	3.494	.002
b_2	.915	.266	.539	3.439	.002

Where: Dependent Variable=country mean math scores; b_1.=Ratio of teacher salary after 15 years of experience to teacher starting salary; b_2.=Expenditure per student on lower secondary education.

b_1: $F_{1, 23} = 5.983$, $p \leq 0.05$; b_2: $F_{1, 23} = 5.983$, $p \leq 0.05$.

Discussion and Implications

Teacher job satisfaction was found to be a good predictor of teacher retention, and among all the factors that directly relate to teacher job satisfaction in the streamlined model, teacher salary was the second most important, only next to school climate. A better school climate was found to be associated with greater teacher job satisfaction. In addition, the indicators of school climate, including teacher participation in decisionmaking, student school conduct, principal leadership, teacher collegiality, and class attendance, all positively contributed to a good school climate that elicited greater teacher job satisfaction and potentially increased teacher retention rates.

In the final post hoc analysis examining the importance of teacher salary, teacher salary stood out as important as teacher participation in decisionmaking in predicting teacher job satisfaction, and,

consequently, teacher retention. Moreover, the results of the multigroup analyses showed that teacher salary was a strong predictor of teacher job satisfaction despite teacher age, length of teaching experience, gender, major field of teaching, or highest educational degree earned, and despite the level, size, and location of the school where he or she taught. Nevertheless, the multigroup national analysis based on teacher age and the length of teaching experience suggested that the association between teacher salary and job satisfaction and, in turn, teacher retention, was stronger among some teachers. For example, novice teachers who had taught 5 years or less and teachers 50 and over were less concerned about salary than those in other groups.

The results of the international analysis indicated that teacher salary was associated with secondary math test scores along with school resources such as class size, student-teacher ratio, teacher major, quality of instructional resources, and teacher morale. The educational expenditure per student on lower secondary education and the ratio of teacher salary after 15 years of experience to starting salary (salary ratio) together accounted for about 50% of the variance in student academic achievement, which was measured by national average math test scores among 26 OECD member countries. In particular, the salary ratio explained more of the proportion of the variance (28.3%) in student academic achievement among countries than did educational expenditures per student (21.4%). This finding converged with the result of our first stage analysis that money matters, but how effectively educational money is invested and deployed is also important in producing desirable school quality as measured by teacher retention and student academic achievement.

In sum, the findings from this study in the national level analysis confirmed the current research that teacher quality is crucial in student academic achievement.[40] Thus, ensuring a highly-qualified teaching force for all students should be a national priority in educational policies related to student academic achievement. Increasing current teacher salaries and providing participatory decisionmaking are two key factors in reaching this goal. Furthermore, the international findings from this study indicated that those countries with a steeper salary schedule, have higher national math test scores. Larger and continuing increases in salaries over a teacher's career should be considered by policymakers. The findings from this study supported the importance of both higher teacher compensation and reform in the structure of teacher compensation.

Endnotes

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https://newprairiepress.org/edconsiderations/vol35/iss2/3
DOI: 10.4148/0146-9282.1187