The Job Satisfaction of Private School Teachers in Compulsory Education and Its Influencing Factors in China

Empirical Research Based on PISA (2015) China Data*

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Abstract—**China's private schools have seen problems with the instability of teachers and low job satisfaction, it is necessary to study private schools job satisfaction and its causing factors. Furthermore, there has been little research studying job satisfaction gaps among different types of private schools, as private school teachers may face more teaching and work environment issues. In this paper, we use the PISA (2015) data samples from four provinces and cities in China, employing T test and structural equation model. We find that the job satisfaction of teachers in inclusive private school is significantly lower than that of public school, magnet private school, and OECD countries private school. The school processes, particularly career and working conditions, principal management support, and teacher collaboration, are positively associated with teacher job satisfaction. The author also found there are significant gaps in resource levels among private schools. Base on the findings, we discussed the possible reasons for the lower levels of teacher satisfaction in inclusive private schools. We conclude that the gap in resource constraints and working conditions has led to low satisfaction among teachers in inclusive private schools.**

Keywords—teacher job satisfaction; inclusive private school; magnet private school; influencing factors

I. INTRODUCTION

Teacher job satisfaction greatly affects teaching effectiveness and educational output. It directly affects the enthusiasm of teachers and their stability; it is also highly relevant to teachers' career mobility, job concentration, job burnout, and mental health (Klassen R M, Bong M, Usher E L, 2009; Hattie, 2008). Teachers with low job satisfaction display lower levels of motivation and commitment (Evans, 2001). The amendment to "China's Private Education Promotion Law" passed in 2016; the government has demanded to pay more attention to the development of private schools in China and strive to solve the problems of private teachers' mobility and job satisfaction. However,

there are serious problems in the teaching staff of private education. Compared with public schools, the stability and job satisfaction of private teachers are lower (Wei Wenfeng, Cheng Yanxia, & Zhang Hong, 2017).

The difference in the quality of private schools is significant; there are relatively high-quality magnet private schools and inclusive private schools with children from socially disadvantaged groups such as migrant workers. The job satisfaction of teachers in inclusive private schools may be lower, the quality of education and teaching effectiveness of these private schools are seriously affected. This poses a challenge to education equity and intensifies social injustice. In such a background, it is necessary to analyze the job satisfaction gap between teachers of inclusive private school, magnet private schools, and other type of school, and find the reason leading to lower job satisfaction in teachers of inclusive private schools. Although there have been many studies on teachers' job satisfaction and influencing factors, there is, however, insufficient empirical research on the job satisfaction of teachers in private schools with very little studies on the job satisfaction of inclusive private teachers.

II. LITERATURE REVIEW

A. Job Satisfaction of Teachers in Private Schools in China

In the broadest sense, job satisfaction refers to the positive or negative appraisals by individuals of their job (Weiss, 2003). Teachers feel satisfied when they perform their work efficiently, with high rates of concentration and effort. Thus, the perception that teachers have of their own efficiency affects their job satisfaction (Caprara, Barbaranelli, Steca, & Malone, 2006; Skaalvik & Skaalvik, 2014). Research on Job Satisfaction of Chinese Teachers shows that the job satisfaction of teachers in Chinese compulsory education is relatively low, and there is a significant gap between urban and rural region (Li Wei, Xu Jiabin, 2017). Further study found that job satisfaction of teachers in four provinces and cities in China is significantly lower than that of most OECD countries (Wang Xuehan, Li Ruixi, & Song Hongpeng., 2017). The overall job satisfaction of middle

school teachers in China is at a medium level, and the disparity between teachers' job satisfaction among different schools is relatively large, which can explain at least 15% of the total difference (Mu Honghua, Hu Yumei, & Liu Hongyun, 2016).

B. Factors Affecting Teacher Satisfaction

Regarding the factors used to study teacher job satisfaction, they relate to internal processes at schools that have received even more attention (Skaalvik & Skaalvik, 2011). These include the climate of the school, student conduct, support from families for the work that is performed by teachers, collaboration among teachers, leadership by management, teacher autonomy, and teacher participation in decision making (Guarino, Santibáñez, & Daley, 2006; Scheopner, 2010; Skaalvik, 2009). School processes — particularly career and working conditions, staff collegiality, administrative support, and to a lesser extent, positive student behavior and teacher empowerment — are positively associated with teacher job satisfaction (Shen. J, Leslie. J, 2012). The satisfaction of teachers is associated with the relationships they establish with students and with colleagues at work and the families of students (Maele & Houtte, 2012). In terms of principal leadership management, Bogler (2001) analyses the relationship between teacher satisfaction and leadership styles, finding that teacher satisfaction is higher when school management acts democratically, establishes fluid channels for communication, and makes teachers and other members of the educational community participate in decision making (distributed leadership). Schools that adopt a democratic leadership style, accept teachers' suggestions, and cooperate with teachers and provide support will make teachers more satisfied with their jobs (Ch. A. Ahmad, 2017). Although this is not exhaustive, this section shows some of the major factors related to teacher satisfaction. This study focuses on private school teachers, which is a set of variables that mainly consider the characteristics of private schools. Therefore, school conditions, principals support management, and teacher cooperation are selected as the main independent variables, and select teacher individual characteristics variables such as teaching years and degree of education as control variables.

III. RESEARCH DESIGN

A. Data Sources

Data used in this research was derived from the 2015 survey data of the Programme for International Student Assessment (PISA) initiated by the Organization for Economic Co-operation and Development (OECD). All sample schools were randomly selected by PISA International Collaboration in accordance with strict sampling criteria. The questionnaire was designed and verified by a team of OECD experts. PISA has collected 268 principals, 6423 teachers, and 9841 students from 268 secondary schools in Beijing, Shanghai, Guangdong, and Jiangsu for testing and investigation. The sampling method uses stratified random sampling.

After removing invalid samples, this study has extracted eight OECD member countries, 2680 private schools, and 59,726 teacher samples for international comparison. The domestic comparative sample in China includes 266 schools in Beijing, Shanghai, Guangdong, and Jiangsu, Including 5738 public schools and 29 private schools, private schools including 635 teachers. The source students are from private schools, divided into inclusive private school and magnet private school. In the questionnaire data, the proportion of students from socio-economically disadvantaged households that exceed 25% is defined as inclusive private schools, there are 6 school samples and 127 sample teachers. Whereas, socio-economically disadvantaged households percentage is less than 25% is defined as magnet private school, which includes 19 school and 425 teacher samples.

B. Variables and Instruments

The research is mainly divided into two phases. In the first phase, we compared the job satisfaction of domestic and international teachers in private schools, studied the current status of job satisfaction among teachers in private schools in China, and whether there are significant differences in the factors that affect teacher job satisfaction in different types of schools (inclusive and magnet private school). Analysis is conducted via software SPSS24 and the independent sample T test method. In the second phase, we use the statistical software AMOS 24 for MIMIC model. The roadmap is shown in "Fig. 1". We test the relationship between the conditions for running schools in private schools, the management support of the principal's leadership, and the relationship between teacher collaboration to teacher job satisfaction. In addition, the MIMIC model can reflect whether there is a significant difference in the latent variables between different school types of covariates to test the results of the first stage T test.

Some variable were directly obtained from the responses to particular questions, PISA (2015) data has been fitted with WLS. Others were indices constructed through a confirmatory factor analysis (CFA) based on the responses to a set of questions. Because the PISA questionnaire is a mature questionnaire designed by the OECD expert group, there is a factor structure with a degree of differentiation, so no exploratory factor analysis (EFA) is required, and confirmatory factor analysis (CFA) is performed directly before model analysis. The specific variable description and model structure are shown in "Table I" and "Fig. 1".
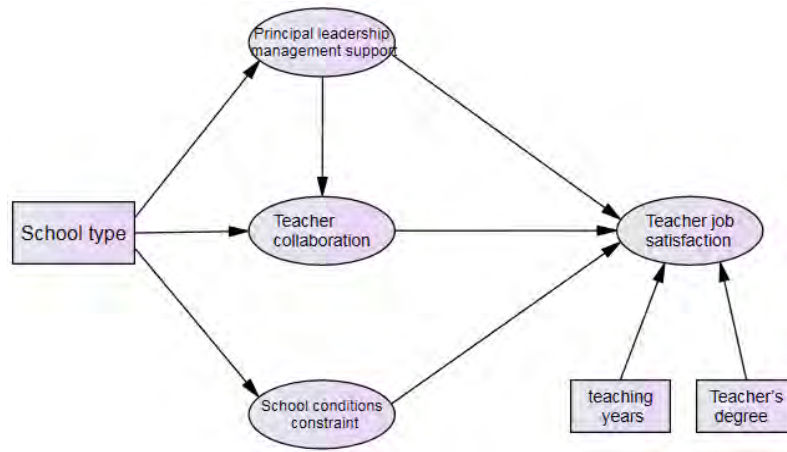
Fig. 1. SEM Roadmap.

TABLE I. VARIABLE DESCRIPTION

Variable Type	Variable	Description
Obvious variable	Teacher work environment satisfaction	PISA (2015) data has been fitted with WLE, Standard deviation is 1, extreme range is -4~4
	Teacher teaching satisfaction	
	Teachers' cooperation and teaching	
	Principal leadership management support	
	Student-teacher ratio	Number of students / number of teachers
	Shortage of educational materials	Not at all - very scarce
	Lack of infrastructure	Likert 4-point scale
	Shortage of teachers	
	School type (MIMIC model covariates)	1=magnet private school, 2=inclusive private school
	Teaching years (Individual characteristics control variables)	Years of teaching in this school
	Teacher's degree (Individual characteristics control variables)	1=<Below ISCED Level 5>,2= <ISCED Level 5B>,3=<ISCED Level 5A Bachelor degree>, 4=<ISCED Level 5A Masters degree>,5=<ISCED Level 6>
Latent variable	Teacher Job Satisfaction (dependent variable)	5 topics fitting: Like working in this school; Recommend my school as a good place to work; Satisfied with my job; Satisfied with my performance in this school; Satisfied with my job.
	School conditions Constraint	3 topics fitting: Inadequate or poor quality educational material ;A lack of physical infrastructure; Inadequate or poor quality physical infrastructure
	Teacher cooperation	5topics fitting: Exchange education and teaching with colleagues; Engage in discussions about the learning development of specific students; Work with other teachers in my school to ensure common standards in evaluations for assessing student progress; Take part in collaborative professional learning
	Principal leadership management support	5topics fitting: The principal determines the school's development goals and reaches consensus with all teachers; the principal understands the needs of the teacher; the principal guides teachers' professional learning ideas; the principal regards the teacher as a professional; and the principal ensures that teachers participate in decision-making.

C. Research Hypothesis

- H1: There is a significant difference in teacher job satisfaction between inclusive private schools, OECD national schools, Chinese public schools, and Chinese magnet private schools.
- H2: There are significant differences in the factors affecting teachers' job satisfaction in inclusive private schools and magnet private schools.

- H3: There are significant differences between magnet private schools in the three dimensions of inclusive private school teachers in terms of school working conditions or principals' leadership management support, or teacher collaboration.
- H4: The three dimensions of school working conditions, the management support of the principal's leadership, and the teacher's collaboration relationship will significantly affect the job satisfaction of private school teachers.

- H5: School working conditions are the main reason that leads to lower levels of satisfaction of inclusive private school teachers compared with those of magnet private school.

Note: In the first phase, T test is employed to verify hypothesis 1 and 2, SEM is then used in the second phase to verify hypothesis 3, 4, and 5.

IV. RESULT

A. Comparison of Job Satisfaction and Influencing Factors Among Private School Teachers

According to OECD data and definition standards, teachers' job satisfaction is divided into job environment satisfaction and teacher's teaching satisfaction, which are reflected in teachers' adaptability to work environment conditions and efficacy of education and teaching. Compared

with the OECD countries, the working environment and teaching satisfaction of private school teachers in four provinces in China are significantly lower (Δmean=-0.344, -0.483, P<0.001), as can be seen in "Table II" and teaching satisfaction is relatively lower. Compared with domestic schools, there is a significant difference in satisfaction with the work environment between teachers of inclusive private schools and public schools (Δmean=0.372, P<0.001), and satisfaction in inclusive private teachers are lower than the average of 0.372 in public schools. For comparison among private schools in China, the working environment and teaching satisfaction of inclusive private school teachers are significantly lower than those of magnet private teachers (Δmean=0.372, 0.231, P<0.01). Hypothesis 1 is supported; job satisfaction of teachers in inclusive private schools is significantly lower than that of OECD countries, public schools, and magnet private schools.

TABLE II.   A COMPARISON OF THE SATISFACTION DEGREES OF PRIVATE SCHOOLS TEACHERS IN FOUR PROVINCES IN CHINA

Classification comparison	Satisfaction	Mean equivalence T test				
		t	*df*	*P*	*mean*	*S.E.*
Compared with international OECD countries	Work environment satisfaction	-25.879	52926	.000	-.344	.013
	Teacher teaching satisfaction	-37.053	53037	.000	-.483	.013
Domestic Inclusive private school ,public school comparison	Work environment satisfaction	3.964	5744	.000	.372	.093
	Teacher teaching satisfaction	1.283	5759	.200	.092	.072
Domestic Inclusive private school ,magnet school comparison	Work environment satisfaction	3.593	496	.000	.381	.106
	Teacher teaching satisfaction	2.655	501	.008	.231	.087

a. Note: The average international comparison is based on private schools in OECD countries, and domestic comparison is based on inclusive private schools.

Different sources of private school students are classified as inclusive schools and magnet schools. The gaps between the influencing factors of job satisfaction among the teachers of the two types of schools are shown in "Table III". There is a significant difference in the conditions for inclusive schools compared with magnet private schools, Specifically, the percentage of educational material shortages in inclusive private schools was 0.548 units higher (t=-4.546, P<0.001),

and the infrastructure scarcity rate was 0.482 units higher (t=-4.485, P<0.001.). The teacher shortage rating was higher than the 0.665 unit level found in inclusive private schools (t=-4.484, P<0.001). There is no significant gap between the principal leadership management and scientific teaching cooperation in the two types of private schools, thus supporting hypothesis 2.

TABLE III.   COMPARISON OF RELEVANT INFLUENCING FACTORS OF INCLUSIVE PRIVATE SCHOOL AND MAGNET PRIVATE SCHOOL TEACHER JOB SATISFACTION IN FOUR PROVINCES IN CHINA

variable	Mean equivalence T test				
	t	*df*	*P*	*mean*	*S.E.*
Shortage of educational materials	-4.546	484	.000	-.548	.120
Lack of infrastructure	-4.485	477	.000	-.482	.107
Shortage of teachers	-4.484	483	.000	-.665	.148
Student-teacher ratio	-8.773	550	.000	-13.706	1.562
Teachers' cooperation and teaching	1.013	177	.312	.171	.169
Principal leadership management support	.967	316	.334	.126	.130

a.   Note: The average domestic comparison is based on inclusive private schools.

B. MIMIC Model

In order to explore the factors that have greater impact on job satisfaction of private teachers, the Effect of Covariate School Types on the Impact Factors, we found the main factors that led to a low level of job satisfaction among

inclusive private school teachers. Therefore, the structural equation model is used to study the relationship among the four dimensions of private teachers' job satisfaction, school conditions, school principals' leadership management, and teacher cooperation. Because PISA questionnaire has a differentiated factor structure, it is not necessary to use

exploratory factor analysis (EFA). The confirmatory factor analysis (CFA) is performed directly before the model fitting. The reliability of the items, the convergence validity, and discriminant validity of the dimensions are shown in "Table IV".

The dimension factor load of each dimension is greater than 0.6, indicating that it has a good constructive validity and possesses subject reliability. The compositional reliability CR is greater than 0.7, and the convergent validity is greater than 0.5. Both meet the recommended value

requirements. The discriminant validity requires that the AVE rooting number value is greater than the dimension correlation, thus, there is discriminant validity between the dimensions. All latent variables passed the fitting requirements through the reliability and validity test. The overall model fitting degree is shown in "Table V". Chi-square/Df value is less than 10, CFI, TLI are all greater than 0.9, RMSEA is less than 0.08, and the model-fitting indexes meet the requirements and are superior to the recommended reference values of the model.

TABLE IV. RELIABILITY, CONVERGENCE, AND DISCRIMINANT VALIDITY ANALYSIS

Item	Factor loading	Composition reliability	Convergence validity	Discriminant validity			
			AVE	F1	F2	F3	F4
F1 job satisfaction	0.657~0.826	0.847	0.582	0.762			
F2 school conditions	0.766~0.967	0.924	0.804	-0.229	0.896		
F3 President Leadership Management	0.805~0.892	0.927	0.718	0.630	-0.019	0.847	
F4 Teacher Collaboration	0.635~0.873	0.832	0.558	0.303	-0.023	0.341	0.746

[a.] The diagonal of the discriminant validity is the root number of the AVE, and the lower triangle is the Pearson correlation of the dimension.

[b.] Econometrics suggests that a normalized estimated parameter value (factor load) greater than 0.6 is reasonable, a compositional reliability CR value of 0.7 is an acceptable threshold (Hair, 1998), and Fornell and Larcker (1981) suggests a value of 0.6 or higher, suggesting an AVE standard value >0.5.

TABLE V. MODEL FITNESS INDEX

Fitness index	Suggested value	Model index	Conformity
ML X2	The smaller the better	356.165	——
Df	The bigger the better	146	——
X2/Df	1<X2/Df<10	2.439	past
CFI	>0.9	0.956	past
TLI	>0.9	0.943	past
RMSEA	<0.08	0.048	past

C. SEM for Hypothesis Path Test

The structural equation model path hypothesis test results are shown in "Table VI", where the coefficient estimates are found in Estimate and the standardized estimation coefficients are found in Std. First, from the MIMIC model we can find the type of school has a significant impact on the School conditions constraint, that is, there is a significant

difference in the conditions for inclusive private school and magnet school, no significant difference is found in teacher collaboration and principal leadership management, thus supporting hypothesis 3.

Then, principal leadership management has a significant positive effect on teacher collaboration. The job satisfaction of private teachers is significantly related to the principal's leadership management support and School conditions constraint. Teacher collaboration is not significantly related to job satisfaction. Among the above-mentioned influencing factors, the principal leadership management support has the greatest impact on teachers' job satisfaction, followed by school conditions constraint. The conclusion rejects hypothesis 4, not both of three dimensions are related to job satisfaction.

TABLE VI. SEM CORRELATION PATH HYPOTHESIS TESTING INDICATORS

Hypothesis path test			Estimate	Std	S.E.	C.R.	P
Principal leadership management	<—	School Type (MIMIC)	-0.125	-0.084	0.078	-1.599	0.110
Teacher collaboration	<—		-0.165	-0.074	0.128	-1.29	0.197
School conditions constraint	<—		0.44	0.221	0.09	4.893	***
Teacher collaboration	<—	Principal leadership management	0.498	0.334	0.09	5.552	***
Job Satisfaction	<—	Principal leadership management	0.558	0.593	0.051	10.987	***
	<—	Teacher collaboration	0.061	0.096	0.033	1.849	0.064
	<—	School conditions constraint	-0.154	-0.216	0.028	-5.395	***
	<—	Teaching years	0.01	0.087	0.004	2.293	0.022
	<—	Teacher's degree	-0.025	-0.021	0.046	-0.542	0.588

[a.] Note : *P<0.05;**P<0.01;***P<0.001

V. CONCLUSION

From the above empirical results, the main conclusions are as follows. First, job satisfaction of teachers in inclusive private schools is significantly lower than that of magnet private schools, public schools, and OECD countries. Second, there is a significant gap in the conditions of the schools for inclusive, magnet private, and public schools, and there is no significant gap between the teacher-cooperation relationship and the principal's management support. Finally, school conditional restrictions, and the management support of the principal's leadership all significantly affect job satisfaction of private teachers. In terms of impact validity, the principal's leadership management support is greater than the school's conditional constraints. From the MIMIC model, it can be seen that conditions of the inclusive private schools are significantly lower than the magnet private schools, and the school conditions are the main factors that affect teacher job satisfaction. Therefore, we infer that the poor school conditions are an important reason that causes low job satisfaction of teachers in inclusive private schools, the conclusion supports hypothesis 5.

The principal management level is the most influential factor for job satisfaction of teachers. This is consistent with the conclusions of the Kouali and G.g. (2017). The school principals need to master different leadership skills (such as transformational and teaching leadership), and change leadership behavior according to the teacher's situation and professional maturity, in order to effectively improve the teacher's satisfaction and teaching effectiveness. The conditions for operating schools are the second most influential factor; the poor school conditions are an important cause for low job satisfaction of teachers in inclusive private schools. Based on this conclusion, policy suggestions should include aspects to increase the input of material resources in inclusive private schools and strengthen the management level of the principals.

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