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## The Impacts of School Climate on Teachers' Job Satisfaction: An Analysis of Teaching and Learning International Survey (TALIS) 2018 National Data

### Okul İkliminin Öğretmenlerin İş Tatmini Üzerindeki Etkileri: Uluslararası Öğretme ve Öğrenme Analizi Araştırması (TALIS) 2018 Ulusal Verileri

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Research Article

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**ABSTRACT:** This study aims to assess and examine secondary school teachers' perceptions of school climate and job satisfaction in five diverse countries: Japan, Korea, Finland, the United States of America (USA), and Australia. It explores the impact of school climate on teachers' job satisfaction, a pivotal factor influencing teacher retention, mobility, and professional development. In order to improve teachers' skills and abilities in the classroom, improving teachers' job satisfaction and understanding the factors that influence it is highly critical. Utilizing secondary data from the Teaching and Learning International Survey (TALIS) 2018, this study provides valuable insights. The findings reveal that teachers in all five countries generally hold positive perceptions of school climates and report high job satisfaction. However, teachers in Japan and Korea express comparatively lower job satisfaction levels when contrasted with their counterparts in Finland, the USA, and Australia. Furthermore, their perceptions of school climate also rank lower. Consequently, this study concludes that a positive correlation exists between favorable perceptions of school climate and elevated job satisfaction. This assertion is supported by regression analyses, individual country data, and aggregate data from all five countries.

**Keywords:** School climate, teacher's job satisfaction, TALIS 2018.

**ÖZ:** Bu çalışma beş farklı ülkede (Japonya, Kore, Finlandiya, Amerika Birleşik Devletleri (ABD) ve Avustralya) ortaöğretim öğretmenlerinin okul iklimi ve iş tatmini algılarını değerlendirmeyi ve incelemeyi amaçlamaktadır. Bu çalışma, okul ikliminin öğretmenlerin işte kalma, hareketlilik ve mesleki gelişimini etkileyen önemli bir faktör olan öğretmenlerin iş tatmini üzerindeki etkisini araştırmaktadır. Öğretmenlerin sınıftaki beceri ve yeteneklerini geliştirmek için öğretmenlerin iş doyumunu artırmak ve buna etki eden faktörleri anlamak son derece önemlidir. Uluslararası Öğretme ve Öğrenme Araştırması'nın (TALIS) 2018 ikincil verilerini kullanan bu çalışma, değerli bilgiler sunmaktadır. Bulgular, beş ülkenin tamamındaki öğretmenlerin genel olarak okul iklimi konusunda olumlu algılara sahip olduklarını ve yüksek iş tatmini bildirdiklerini ortaya koymaktadır. Ancak Japonya ve Kore'deki öğretmenler, Finlandiya, ABD ve Avustralya'daki meslektaşlarıyla karşılaştırıldığında nispeten daha düşük iş tatmini düzeylerine sahiptir. Ayrıca okul iklimine ilişkin algıları da daha alt sıralarda yer almaktadır. Sonuç olarak bu çalışma, olumlu okul iklimi algısı ile yüksek iş tatmini arasında pozitif bir ilişkinin var olduğu sonucuna varmaktadır. Bu iddia, regresyon analizleri, bireysel ülke verileri ve beş ülkenin tamamından elde edilen toplu verilerle desteklenmektedir.

**Anahtar kelimeler:** Okul iklimi, öğretmenlerin iş tatmini, TALIS 2018.

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Teachers' job satisfaction is one of the factors for teacher retention, teacher mobility, and teacher professional development (Borman & Dowling, 2008; Colwell, 2022; Klassen & Chiu, 2011; Zhou, Padrón, Waxman, Baek, & Acosta, 2023). Improving teachers' job satisfaction is essential in retaining quality teachers (Ghavifekr & Pillai, 2016). Similarly, teachers' job satisfaction can increase teacher retention, an indicator of an effective school system regarding teacher management (Shann, 1998). According to Holland (1996), vocational satisfaction depends on the relationship between one's personality and the environment in which one works. In other words, people's satisfaction with their work is related to the conditions and the work climate. This paper investigates this crucial relationship between working conditions and school climate vis-a-vis teachers' job satisfaction.

Many factors have an effect on teachers' job satisfaction. Among them, school climate is becoming critical for teachers' job satisfaction and students' learning outcomes (Bascia & Rottmann, 2011; Chen, Bellibaş, & Gümüş, 2023). In the Teaching and Learning International Survey (TALIS), Sims (2017, 2018) used teacher data in 35 countries from TALIS (2013) to explore the school learning environments and working conditions. In this research, students' discipline and teacher cooperation were positively related to teacher job satisfaction in all countries.

Previous researches showed that school climate is critically important to becoming an effective school (Freiberg & Stein, 1999; Collie, Shapka, & Perry, 2012; Zakariya, 2020). Therefore, school climate is essential for school effectiveness because it may cause a negative and positive effect on the school performance, teachers' motivation, teachers' self-efficacy and well-being in general, and, in turn, students' motivation and learning outcomes (Collie, Shapka & Perry, 2011). However, the research on the comparative analysis of different countries using international data such as TALIS has been relatively limited. In this study, data on lower secondary teachers from Japan, Korea, Finland, the United States, and Australia were included. These countries were chosen to represent different contexts—Japan and Korea to demonstrate nuances in an Asian context, whilst Finland, the United States and Australia to represent Western complexities. Significant cross-cultural differences in job satisfaction and self-efficacy among teachers suggest that contextual factors and cultural settings play a vital role in how school climate impacts teacher satisfaction (Diagne, 2023). This paper aims to support such literature and provide quantitative evidence of the significance of school climate on teachers' job satisfaction in different cultural contexts using the data from the 2018 Teaching and Learning International Survey (TALIS) by conducting a comparative study among selected five countries.

### **Theoretical Framework**

In this study, Bronfenbrenner's' ecological theory is employed to support this study. According to Bronfenbrenner's revised bioecological theory, human development is specifically connected to four properties: (1) person, (2) context, (3) process, and (4) time. Simply put, the 'person' is associated with the characteristics of individual age, gender, skill and ability and their interaction with the environment. 'Context' refers to home, school, peer group and community. The third factor, 'process', refers to the relationships with people or objects. And lastly, 'time' pertains to the process of change (Ettedal & Mahoney 2017).

In the education setting, teachers' job satisfaction is one of the factors that contribute to their professional development. There are many factors influencing teachers' job satisfaction, such as school environment (context), teacher-student interaction (process), and teacher empowerment (person) etc. In this study, teacher cooperation (process) and student-teacher relationship (process) were considered for school climate (context).

Figure 1

*Bronfenbrenner's Revised Bioecological Theory*



*Note:* Adapted from Ettekal & Mahoney (2017)

Moreover, job satisfaction is one of the indicators of teachers' effectiveness as well as school performance. Many factors affect the teachers' job satisfaction in their workplace. Among them, school climate is also an essential factor to be considered. Job satisfaction is a sense of accomplishment, satisfaction, and gratification from the environment and occupation in which the people work (Locke, 1969). It can also refer to the degree of individual feeling of the satisfaction of their job-related needs (Evans, 1997). Therefore, teachers' job satisfaction is related to their motivation, psychological well-being, and performance (Barnabe & Burns, 1994; Feather & Rauter, 2004; Vansteenkiste et al., 2007). Previous studies proved that the individual's sense and level of job satisfaction are influenced by internal or individual and external or environmental factors such as organizational occupational factors (Tandon & Tyagi, 2012; Lopes & Oliveira, 2020). Many types of research showed that teachers are satisfied with their teaching performance, professional growth, and work, but they are dissatisfied with their working conditions, salary, school climate, and other factors (Butt et al., 2005; Crossman & Harris, 2006; Dinham & Scott, 1998; Kim & Loadman, 1994).

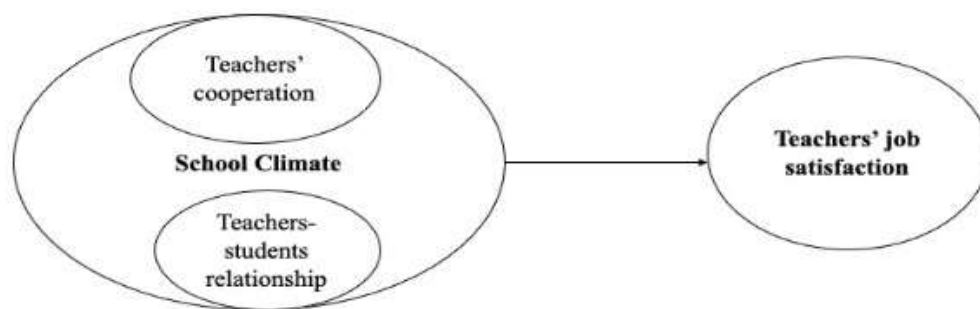
School climate has been a topic of research for many decades. Several studies show that the school climate can influence the students' and teachers' performance (Hoy & Woolfolk, 1993; Pas, Bradshaw, & Hershfeldt, 2012). School climate can be defined in different ways. The school climate can be defined as the feelings and attitudes that come from the school environment. School climate is one of the critical factors for providing a healthy and effective school environment and atmosphere. According to Freiberg (1998), "*the interaction of various school and classroom climate factors can create a fabric of support that enables all members of the school community*

to teach and learn at optimum levels” (p. 22). It can then be established that positive perceptions of school climate can give positive educational, physical, and mental outcomes for students and teachers, and adverse school climate can cause low student and teacher performance. (Cohen et al., 2009; Freiberg, 1998; Kuperminc et al., 1997; Lopes & Oliveira, 2020; Pepper & Thomas, 2001; Simin & Pillai, 2018).

Bastia and Rottmann (2011) conducted a study to explore the importance of working conditions in schools not only for teacher motivation, effectiveness, and job satisfaction but also for student opportunities to learn. They found that collegial support, administrator support, and student discipline were positively related to the teachers’ job satisfaction. In addition, Toropova, Myrberg, and Johansson (2020) also conducted similar research in the Swedish context. They also found that school-working conditions such as teachers’ cooperation, students’ discipline, and a feasible workload were positively related to teachers’ job satisfaction.

Figure 2

*Relationship between School Climate and Teachers’ job satisfaction*



*Note; Adapted from: Bastia and Rottmann (2011), Toropova, Myrberg & Johansson (2020).*

In the Japanese context, school conditions can affect teacher job satisfaction. Shen, Leslie, Spybrook, and Ma (2012) researched school conditions and teachers’ job satisfaction. They found that school processes, particularly career and working conditions, staff collegiality, and administrator support, are positively associated with teacher job satisfaction. You, Kim, and Lim (2015) examined the effects of teachers’ sense of efficacy and school culture on job satisfaction among secondary teachers in Korea. At the institutional level, they found that school characteristics, academic climate, and support from colleagues and principals positively impacted teachers’ job satisfaction. Malinen and Savolainen (2016) conducted a longitudinal study of school-working conditions on teacher job satisfaction and burnout in Finland with 642 Finnish middle school teachers. They found that teachers with higher teacher collaboration and student behavior were more satisfied with their jobs. In Australia, Aldridge and Fraser (2016) tested a research model of the relationships between the school climate, teachers’ self-efficacy, and teacher job satisfaction with 781 Western Australian high school teachers. They found that school climate is related to teachers’ efficacy and job satisfaction. Johnson, Kraft, and Papay (2012) conducted a study on the impact of school climates on teacher job satisfaction and career intentions in the US context. They found that teachers’ working conditions were the most important. Therefore, the support of the school leadership, collegial support, and teacher-student relationships affect the teachers’ job satisfaction and students’ performance.

Based on the systematic research review, most of the research on school climate and teachers' job satisfaction were conducted in different countries with individual data. More research focused on one country, and less research focused on different countries with comparative data. In addition, there is also a need to examine the relationship between school climate and job satisfaction. Therefore, this research will be carried out to fill this research gap by using TALIS individual national data.

### **Research Objectives**

This research aims:

1. To study and compare the teachers' perception of school climate and teachers' job satisfaction in Japan, Korea, Australia, Finland, and the United States.
2. To study the impact of school climate on teachers' job satisfaction in Finland, Korea, Japan, the United States of America, and Australia.

### **Method**

Secondary data was used for this study. Data from the third teaching and learning international survey (TALIS 2018) was used. TALIS 2018, international survey is based on the cross-sectional survey. The procedures for the development of the questionnaire and how the data collection has been carried out are reported in the OECD technical report 2019 (OECD, 2019). TALIS began in 2008 with 24 participating countries and economies, focusing on lower secondary education. TALIS has since started conducting surveys in primary and upper-secondary schools. In 2013, the data we acquired from the OECD on mentoring were from 32 countries. 2018 it increased to 48 (total participating countries is 48). TALIS data aims to offer opportunities for teachers and principals to provide input into education analysis and policy development. TALIS was conducted by the Organization for Economic Co-operation and Development (OECD), and they are primarily cross-sectional surveys (OECD, 2019).

This study used five data sets for five countries: Japan, Korea, Australia, Finland, and the United States. The names of the data sets are BTGJPNT3 for Japan, BTGKORT3 for Korea, BTGAUST3 for Australia, BTGFINT3 for Finland, and BTGUSAT3 for the United States.

“B”: lower secondary education (ISCED level).

“T”: teacher-level data file.

“G” is used for general questionnaire data.

“T3” is used for the third round of TALIS, which was conducted in 2018.

All information about TALIS 2018 (framework underlying the questionnaires, technical report on the data collection and analysis plan for the variables) can be accessed via the OECD website (<https://www.oecd.org/education/talis/talis-2018-data.htm>).

### **Participants**

The total population for this study was calculated from the TALIS (2018) data sets for lower secondary teachers in Japan, Korea, Finland, Australia, and the United States. The total population which completed the questionnaire is 15470 participants (2851 from Finland, 2931 from Korea, 3555 from Japan, 2560 from the United States and 3573 from Australia). According to the participants' background information, 90



percent of lower secondary teachers are full-time teachers in all countries. Among them, 2578 lower secondary school teachers, of a total of 2849, are master's or equivalent degree holders in Finland. Female teachers are generally more than male teachers in most countries' education systems. In the background table, it can be seen that there are more male teachers than female teachers at the lower secondary level in Japan. Other background information of the participants is shown in Table 1.

Table 1

*Background Information of the Participants*

Gender	Finland	Korea	Japan	United StateS	Australia
Male	866	906	2025	837	1327
Female	1985	2025	1510	1317	2264
Education Background	Finland	Korea	Japan	United State	Australia
Below ISCED 2011 Level 3	1	-	-	-	-
ISCED 2011 Level 3	34	-	-	2	-
ISCED 2011 Level 4	8	-	1	-	-
ISCED 2011 Level 5	27	1	116	5	131
ISCED 2011 Level 6	164	1790	2982	972	2776
ISCED 2011 Level 7	2578	1099	367	1524	607
ISCED 2011 Level 8	37	36	8	48	50
Total	2849	2926	3474	2551	3564
Missing	2	5	81	9	9
Total	2851	2931	3555	2560	3573
Employment status at current School	Finland	Korea	Japan	United State	Australia
Full-time (>90%)	2482	2828	3175	2455	2950
Part-time (71-80%)	134	43	80	17	284
Part-time (50-70%)	93	15	101	29	201
Part-time (< 50%)	176	11	161	22	60
Total Employment	Finland	Korea	Japan	United State	Australia
Full-time (>90%)	2562	2752	3012	2382	2843
Part-time (71-80%)	130	93	126	61	348
Part-time (50-70%)	49	21	97	26	147

Part-time (< 50%)	51	10	120	27	47
Primary Subject Category	Finland	Korea	Japan	United States	Australia
Reading, Writing, Literature	275	455	350	446	561
Mathematics	284	323	434	350	473
Science	274	330	318	278	376
Social Studies	219	321	301	240	345
Modern Foreign Languages	430	337	443	100	118
Technology	45	190	87	83	173
Ancient Greek or Latin				3	2
Art	276	216	237	194	261
Physical Education	246	236	276	167	281
Religion or Ethics	120	62	18	13	51
Practical or Vocational Skill	174	96	100	55	138
Other	64	113	47	63	48

### Data Collection Instrument

According to the TALIS (2018) teachers' questionnaire framework, item number 49 (a, b, c, d, e) were used to assess the school climate, and item number 53 (b, e, g, h, i, j) were used for job satisfaction. The items are constructed with a four-point Likert scale identified as strongly disagree, disagree, agree, and strongly agree. The values of Cronbach's alpha for the internal consistency of these items are shown in Table 2.

#### Items for School Climate:

How strongly do you agree or disagree with the following statements about what happened in this school?

1. Teachers and students in this school usually get on well with each other. (TT3G49A)
2. Most teachers in this school believe that the student's well-being is important. (TT3G49B)
3. Most teachers in this school are interested in what the students have to say. (TT3G49C)
4. If a student needs an extra assistance, the school provides it. (TT3G49D)
5. Teachers in this school can rely on each other. (TT3G49E)

#### Items for Job Satisfaction:

We would like to know how you generally feel about your job. How strongly do you agree or disagree with the following statements.?

1. If I could decide again, I would still choose to work as a teacher. (TT3G53B)



2. I enjoy working at this school. (TT3G53E)
3. I would recommend my school as good place to work. (TT3G53G)
4. I think that the teaching profession is valued in society. (TT3G53H)
5. I am satisfied with my performance in this school. (TT353I)
6. All in all, I am satisfied with my job. (TT3G53J)

### Method of Analysis

SPSS software (22) was used to analyze the data. Descriptive analysis, correlation, and regression analyses were conducted for data analysis. Mean scores were used for the description and comparison of the indices for each country. Correlation and regression were used to test how school climate influences the teachers' job satisfaction. To test the reliability of the items for each dimension, the reliability was calculated in terms of Cronbach's alpha, which is shown in Table 2. According to the value of Cronbach's alpha of two variables for each country, the internal consistencies of the items are acceptable.

Table 2

*Reliability of the Scales in Terms of Cronbach's  $\alpha$*

Measures	Finland	Korea	Japan	United States	Australia
School Climate	0.836	0.890	0.856	0.847	0.846
Job Satisfaction	0.793	0.838	0.759	0.772	0.787

### Results

#### **The Comparison of the Teachers' Perception of School Climate and Teachers' Job Satisfaction in Japan, Korea, Finland, the United States and Australia**

Table 3 shows the mean scores for teachers' perceptions of school climate and job satisfaction in Japan, Korea, the United States and Australia. According to the result, teachers in all countries have positive perceptions of school climate and job satisfaction because all the values mean scores are greater than two. Among them, teachers in Finland, the United States, and Australia have little more positive perceptions of school climate and high job satisfaction than those in Japan and Korea. However, in order to test whether the school climate can influence teachers' job satisfaction, correlation and regression analysis were conducted. The following sections show each country's correlation and regression results and aggregate data of all five countries.

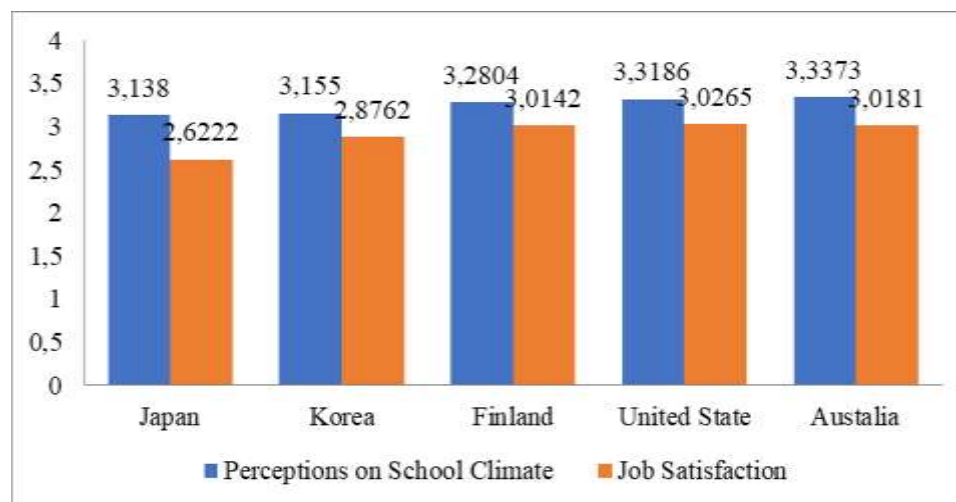
Table 3

*Mean Scores for the Perceptions of School Climate and Job Satisfaction in Japan, Korea, Finland, the United States, and Australia*

Country	Perceptions on School Climate	Job Satisfaction
Japan	3.138	2.6222
Korea	3.155	2.8762
Finland	3.2804	3.0142
United States	3.3186	3.0265
Australia	3.3373	3.0181

Figure 3

*Comparison of Mean Scores for the Perceptions of School Climate and Job Satisfaction in Japan, Korea, Finland, United States and Australia*



### **The Impact of School Climate on Teachers' Job Satisfaction**

In order to answer the research question two, the linear regression was used. Before doing regression analysis, scatter plots and correlations were conducted for all data sets. In order to assess the effect size of the regression model, Cohen's  $f$  value was also calculated. Cohen's  $f$  value can be divided into three groups: Cohen's  $f = 0.01$ : small effect size, Cohen's  $f = 0.25$ : medium effect size and Cohen's  $f = 0.40$ : large effect size. In this section, the result was shown for each of the five countries.

### The Impact of School Climate on Teachers' Job Satisfaction in Japan

For the data set of Japan, according to the scatter plot diagram, the X-axis shows the school climate (predictor), and the Y-axis shows teachers' job satisfaction (predicted or dependent variable). According to the scatter plot result, there is a positive linear relationship between school climate and teachers' job satisfaction because the data shows an uphill pattern as it moves from left to right; this indicates a positive relationship between school climate and job satisfaction. This means that the teachers who work in a positive school climate will have more job satisfaction. However, the scatter plot does not give us definitive answers. We need to calculate the appropriate statistics. Therefore, correlation and linear regression analysis were also used. The correlation result of data from Japan is shown in Table 4. As shown in the table, the school climate is positively correlated with teachers' job satisfaction ( $r=.379$ ,  $p>.01$ ).

Figure 4

Scatter Plot Result for Japan

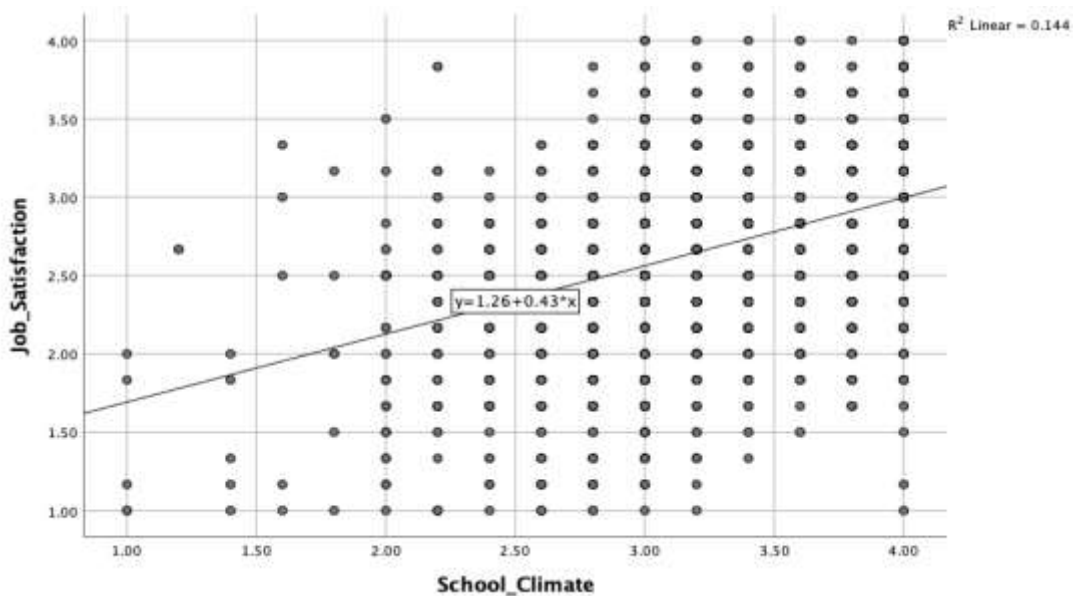


Table 4

Correlation between School Climate and Job Satisfaction in Japan

	School Climate	Job Satisfaction
School Climate	1	.379**
Job Satisfaction	.379**	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

Table 5

Impact of School Climate on Teachers' Job Satisfaction in Japan

Predictors	Predicted variables (Teachers' job satisfaction)
School Climate	.379***
R <sup>2</sup>	.144

Adjusted R <sup>2</sup>	.144
F Value	580.399***

Note: \*\*\*sig at  $p < .001$ , \*\*sig at  $p < .01$ , \* sig at  $p < .05$

The overall regression model is significant ( $F(1) = 580.399$ ,  $P < .001$ ); school climate is a variable which could be used to predict teachers' job satisfaction ( $t = 24.091$ ,  $P < .001$ ). The correlation between the true Y and the predicted Y is .379, and the coefficient of the determinant is .144, which indicates that the regression model could explain 14.4% of the total variance in teachers' job satisfaction. The Cohen's f value is 0.41. Therefore, it has a large effect size because the value is greater than 0.4. The following equation is for the impact of school climate on the teachers' job satisfaction in Japan.

- School climate =  $1.258 + .0435 * \text{teachers' job satisfaction}$

### The Impact of School Climate on Teachers' Job Satisfaction in Korea

In the case of the scatter plot result of the data from Korea, there is a positive linear relationship between school climate and teachers' job satisfaction because the regression line has a positive slope. It means a positive relationship between X and Y, and teachers with a positive working environment will have more satisfaction in their teaching job. In order to obtain definitive answers, correlation and linear regression analysis were also conducted. Table 6 shows the correlation results between school climate and job satisfaction in Korea. According to the results, there was a positive relationship between school climate and job satisfaction ( $r = .369$ ,  $p > .01$ ).

Figure 5

Scatter Plot Result for Korea

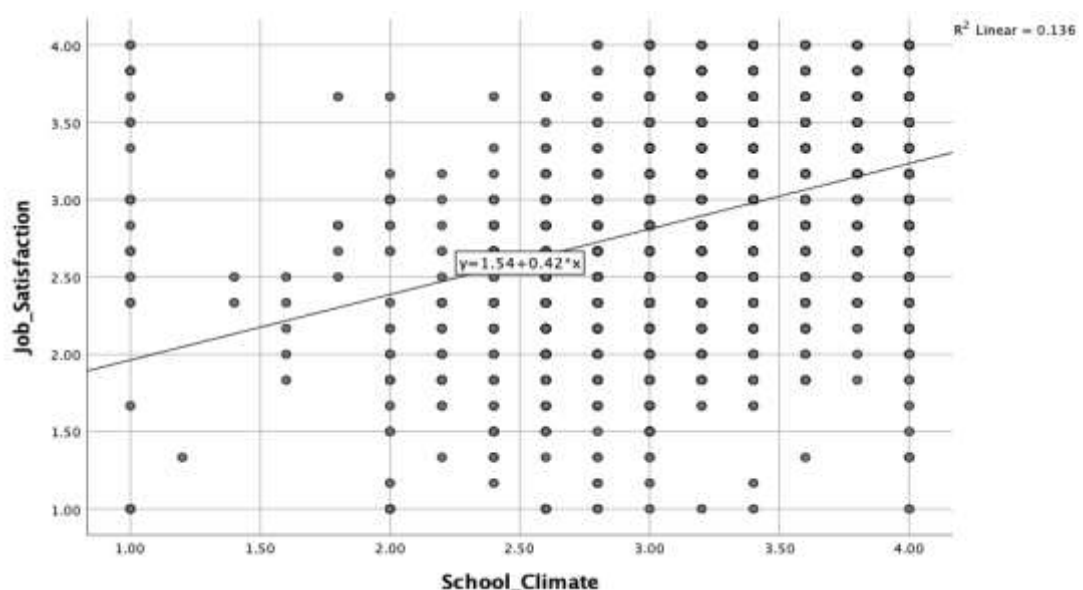


Table 6  
*Correlation between School Climate and Job Satisfaction in Korea*

	School Climate	Job Satisfaction
School Climate	1	.369**
Job Satisfaction	.369**	1

Note: \*\* Correlation is significant at the 0.01 level (2-tailed).

Table 7  
*Impact of School Climate on Teachers' Job Satisfaction in Korea*

Predictors	Predicted variables (Teachers' job satisfaction)
School Climate	.369***
R <sup>2</sup>	.136
Adjusted R <sup>2</sup>	.136
F Value	439.485***

\*\*\*sig at  $p < .001$ , \*\*sig at  $p < .01$ , \* sig at  $p < .05$

Table 7 shows the results of the regression analysis in Korea. The overall regression model is significant ( $F(1) = 439.485$ ,  $P < .001$ ); school climate is a variable that could be used to predict teachers' job satisfaction ( $t = 20.964$ ,  $P < .001$ ). The correlation between the true Y and the predicted Y is .369, and the determinant coefficient is .136, which indicates that the regression model could explain 13.6% of the total variance in teachers' job satisfaction. Since the value of Cohen's  $f$  is 0.39, it has a medium effect size. The equation for the Korean context is as follows.

- School climate =  $1.539 + 0.424 \times$  teachers' job satisfaction

### **The Impact of School Climate on Teachers' Job Satisfaction in Finland**

As with the data for Korea, there is much overlap in the results of the lower secondary teachers in Finland. According to the scatter plot result, there is a positive linear relationship between school climate and teachers' job satisfaction because of the positive slope on the regression line. Therefore, working in a positive school climate is an important element of satisfaction with the teaching profession. The following tables show correlation and regression analysis to test the linear relationship. Table 8 shows the positive correlation between school climate and job satisfaction of teachers in Finland ( $r = .429$ ,  $p < .01$ ).

Figure 6  
Scatter Plot Result for Finland

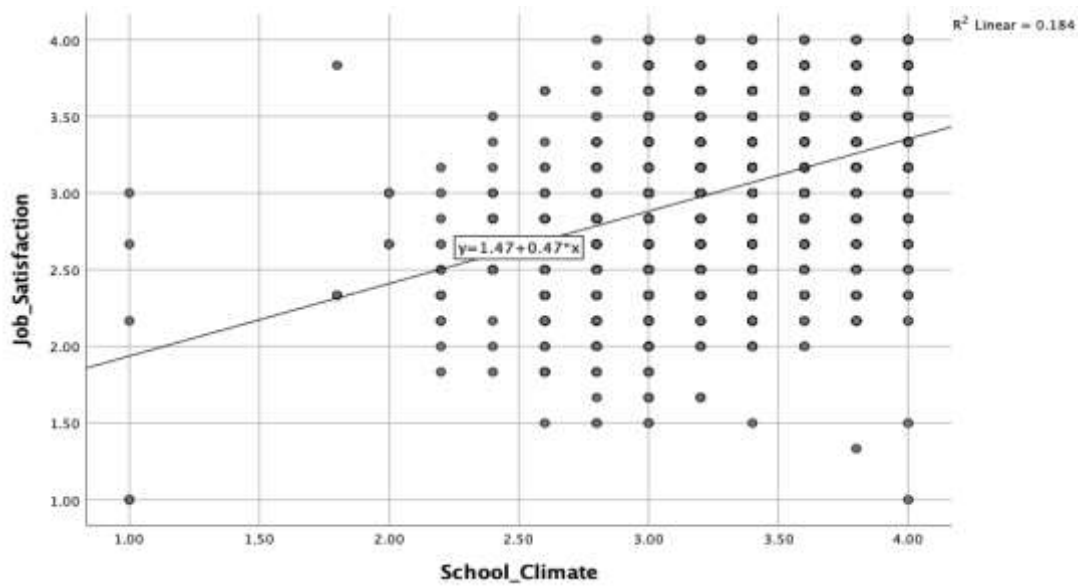


Table 8

Correlation between School Climate and Job Satisfaction in Finland

	School Climate	Job Satisfaction
School Climate	1	.429**
Job Satisfaction	.429**	1

Note: \*\* Correlation is significant at the 0.01 level (2-tailed).

Table 9

Impact of School Climate on Teachers' Job Satisfaction in Finland

Predictors	Predicted variables (Teachers' job satisfaction)
School Climate	.429***
R <sup>2</sup>	.184
Adjusted R <sup>2</sup>	.184
F Value	619.441***

Note: \*\*\*sig at  $p < .001$ , \*\*sig at  $p < .01$ , \* sig at  $p < .05$

The overall regression model is significant ( $F(1) = 619.441$ ,  $P < .001$ ); school climate is a variable which could be used to predict the teachers' job satisfaction ( $t = 24.889$ ,  $P < .001$ ). The correlation between the true Y and the predicted Y is .429, and the coefficient of the determinant is .184, which indicates that the regression model could explain 18.4% of the total variance in teachers' job satisfaction. According to Cohen's f value (Cohen's  $f = 0.47$ ), it has a large effect size. The equation result for Finland is as follows.



- School climate= 1.465+ .472\* teachers' job satisfaction

### The Impact of School Climate on Teachers' Job Satisfaction in the United States of America

As shown in Figure (6), as the regression line in the scatter plot result shows an uphill pattern, there is a positive linear relationship between school climate and teachers' job satisfaction. Based on the scatter plot result, teachers working in positive school environments have more satisfaction in their teaching profession. In order to have definitive answers, the correlation and regression analysis calculations are shown in Tables 10 and 11. According to the correlation result, there was a positive correlation between school climate and teachers' job satisfaction ( $r=.389$ ,  $p<.01$ )

Figure 7  
Scatter Plot Result for United States of America

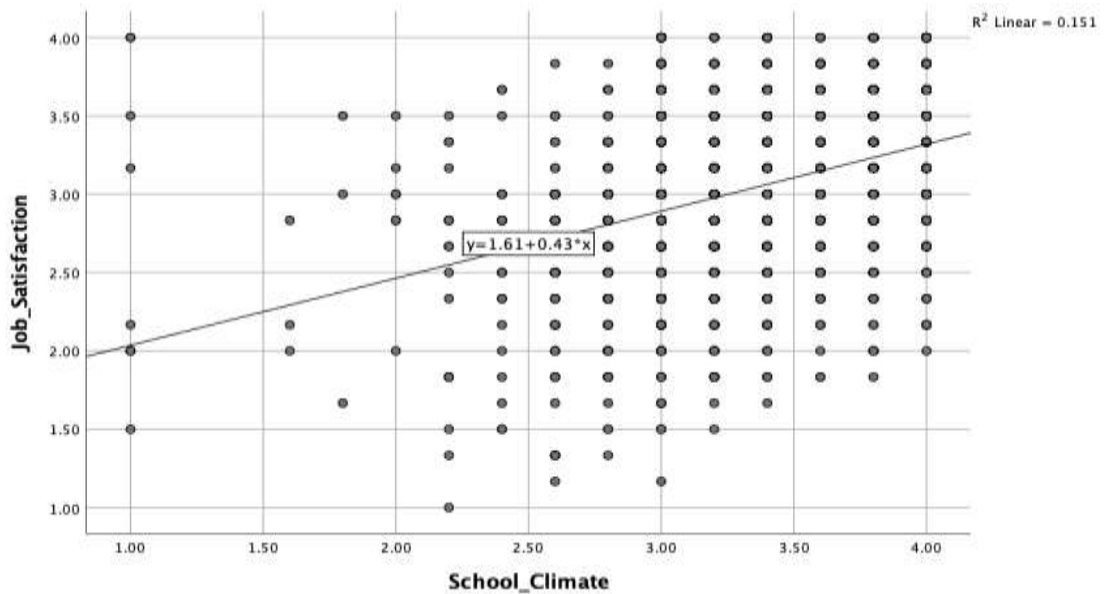


Table 10  
Correlation between School Climate and Job Satisfaction in the United States

	School Climate	Job Satisfaction
School Climate	1	.389**
Job Satisfaction	.389**	1

Note: \*\* Correlation is significant at the 0.01 level (2-tailed).

Table 11  
Impact of School Climate on Teachers' Job Satisfaction in United States

Predictors	Predicted variables (Teachers' job satisfaction)
School Climate	.389***
R <sup>2</sup>	.151

Adjusted R <sup>2</sup>	.151
F Value	419.390***

Note: \*\*\*sig at  $p < .001$ , \*\*sig at  $p < .01$ , \* sig at  $p < .05$

The overall regression model is significant ( $F(1) = 419.390$ ,  $P < .001$ ); school climate is a variable that could be used to predict the teachers' job satisfaction ( $t = 20.479$ ,  $P < .001$ ). The correlation between the true Y and the predicted Y is .389, and the coefficient of the determinant is .151, which indicates that the regression model could explain 15.1% of the total variance in teachers' job satisfaction. Cohen's  $f$  is 0.42, which has a large effect size. The following equation is the impact of school climate on teachers' job satisfaction in the United States.

- School climate =  $1.608 + .428 \times$  teachers' job satisfaction

### The Impact of School Climate on Teachers' Job Satisfaction in Australia

In the case of data for Australia, according to the scatter plot result, there is a positive linear relationship between school climate and teachers' job satisfaction. The following tables show correlation and regression analysis to test the linear relationship.

Figure 8

Scatter Plot Result for Australia

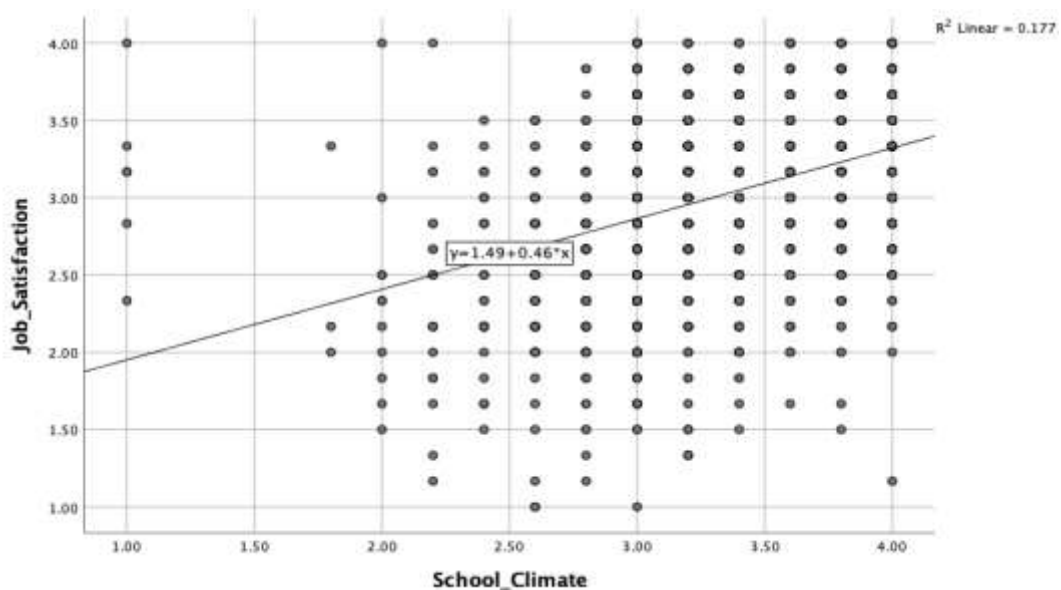


Table 12

Correlation between School Climate and Job Satisfaction in Australia

	School Climate	Job Satisfaction
School Climate	1	.421**
Job Satisfaction	.421**	1

Note: \*\* Correlation is significant at the 0.01 level (2-tailed).

Table 13

*Impact of School Climate on Teachers' Job Satisfaction in Australia*

Predictors	Predicted variables (Teachers' job satisfaction)
School Climate	.421***
R <sup>2</sup>	.177
Adjusted R <sup>2</sup>	.177
F Value	677.651***

Note: \*\*\*sig at  $p < .001$ , \*\*sig at  $p < .01$ , \* sig at  $p < .05$

The overall regression model is significant ( $F(1) = 677.651, P < .001$ ); school climate is a variable which could be used to predict the teachers' job satisfaction ( $t = 26.032, P < .001$ ). The correlation between the true Y and the predicted Y is .421, and the coefficient of the determinant is .177, which indicates that the regression model could explain 17.7% of the total variance in teachers' job satisfaction. According to Cohen's f value (Cohen's  $f = 0.46$ ), this regression model for Australia also has a large effect size. The equation for Australia is as follows.

- School climate =  $1.494 + .457 * \text{teachers' job satisfaction}$

**The Impact of School Climate on the Teachers' Job Satisfaction in Japan, Korea, Finland, United States and Australia**

As shown in Figure 9, the Scatter Plot result for Japan, Korea, Finland, the United States and Australia also shows a positive linear relationship between school climate and teachers' job satisfaction because of the positive slope on the regression line in the scatter plot. This means that teachers working in a positive school climate will have more satisfaction in the teaching profession. Tables 14 and 15 show the calculation of correlation and regression analysis of all five countries' data sets.

Figure 9

*Scatter Plot Result for Japan, Korea, Finland, United States and Australia*

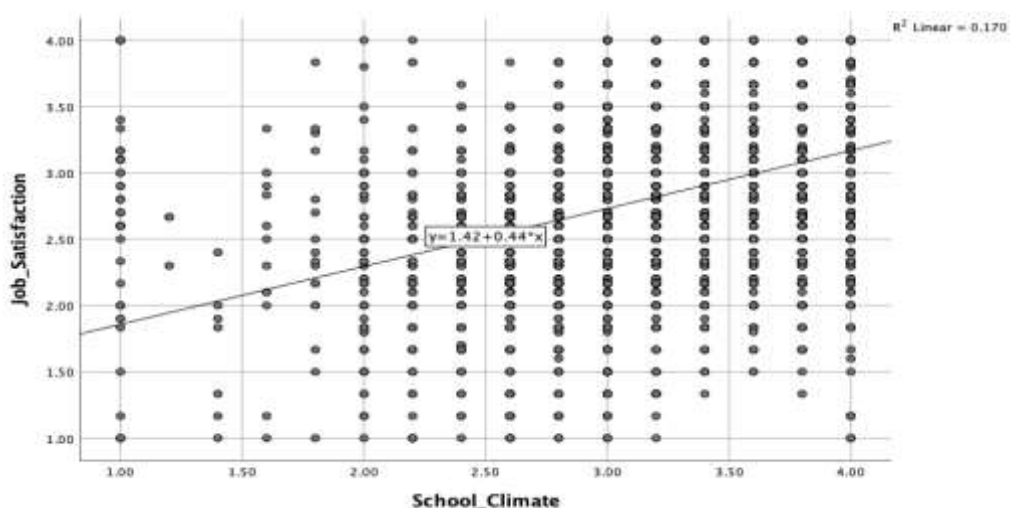


Table 14

*Correlation between School Climate and Job Satisfaction in Japan, Korea, Finland, United States and Australia*

	School Climate	Job Satisfaction
School Climate	1	.412**
Job Satisfaction	.412**	1

Note: \*\* Correlation is significant at the 0.01 level (2-tailed).

Table 15

*Impact of School Climate on Teachers' Job Satisfaction in Japan, Korea, Finland, United States and Australia*

Predictors	Predicted variables (Teachers' job satisfaction)
School Climate	.412***
R <sup>2</sup>	.170
Adjusted R <sup>2</sup>	.169
F Value	619.441***

Note: \*\*\*sig at  $p < .001$ , \*\*sig at  $p < .01$ , \* sig at  $p < .05$

The overall regression model is significant ( $F(1) = 2.535E3$ ,  $P < .001$ ); school climate is a variable that could be used to predict teachers' job satisfaction ( $t = 50.345$ ,  $P < .001$ ). The correlation between the true Y and the predicted Y is .412, and the coefficient of the determinant is .170, which indicates that the regression model could explain 17% of the total variance in teachers' job satisfaction. This regression model also has a large effect size because Cohen's f value is 0.45.

- School climate =  $1.422 + .436 \times$  teachers' job satisfaction

### Discussion and Conclusion

This paper aims to study the perceptions of secondary teachers on school climate and job satisfaction in Japan, Korea, Finland, the United States, and Australia and the impact of school climate on teachers' job satisfaction. The data from the third teaching and learning survey (2018) was used for this study. The data sets for Japan, Korea, Finland, the United States, and Australia were used in this study. There were two parts to the research findings: descriptive and inferential (regression) results. According to the descriptive findings, teachers from all countries have positive perceptions of school climates and high job satisfaction. However, teachers from Japan and Korea have slightly lower job satisfaction than teachers from Finland, the United States, and Australia, and their perceptions of school climate are also low.

In the second section, the relationship of these two variables was presented. Regression analysis was used to test how these two continuous variables are related. Before regression analysis, the scatter plot and correlation calculations were conducted as preliminary analyses. The correlation results of each country data set and combined

of all data sets show a positive correlation between the school climate and job satisfaction ( $r=.379$ ,  $p>.01$  in Japan,  $r=.369$ ,  $p>.01$  in Korea,  $r=.429$ ,  $p<.01$  in Finland,  $r=.389$ ,  $p<.01$  in United State,  $r=.421$ ,  $p<.01$  in Australia, and  $r=.412$ ,  $p<.01$  in combined data respectively). Effect sizes for all country data sets were also calculated. According to the results of the regression analysis, teachers' perception of school climate can predict their job satisfaction in all five countries: Japan, Korea, Finland, the United States, and Australia. Based on the individual data and overall data for all countries (Japan, Korea, Finland, United States and Australia), research findings can be summarized as the more positive teachers' perception of the school climate, the higher teachers' job satisfaction. This research provides practical implications for improving school climate and conditions and ways to create better education policies. However, this current research included only five countries: Japan, Korea, Finland, Australia, and the United States.

The study finding is consistent with previous studies (Chen, Bellibaş, & Gümüş, 2023; Johnson, Kraft, and Papay, 2012; Zakariya, 2020), which showed the influence of school climate on teachers' job satisfaction. This current research aligns with the previous research (Sims, 2017; Toropova, Myrberg, & Johansson, 2020) based on TALIS (2013) international data. In addition, this study is consistent with previous researches in Japan, Korea, Finland, Australia, and the United States (Aldridge & Fraser, 2016; Johnson, Kraft, & Papay, 2012; Malinen & Savolainen, 2016; Shen, Leslie, Spybrook & Ma 2012; You, Kim & Lim 2015).

According to Bronfenbrenner's revised bioecological theory, human development is precisely connected to four properties: (1) person, (2) context, (3) process, and (4) time. In the school setting, many factors influence teachers' job satisfaction, such as teachers' professional qualifications, the context of school working conditions, the process of teachers' collaboration, students and teachers relationships, and global changes. Among them, the process of teachers' cooperation and student-teacher relationship were considered in this study. Sims (2017) conducted research to explore the school learning environments and working conditions based on the TALIS (international) 2013 data. In this research, students' discipline and teacher cooperation were positively related to teacher job satisfaction in all countries. Concerning the school climate, teacher cooperation and student-teacher relationship were included in the current research. Based on the current results, all these aspects of school climate influence the teacher's job satisfaction. Therefore, school principals, policymakers and educators should emphasize teacher collaboration by providing community learning and lesson study groups.

In addition, to create positive and better student-teacher relationships, different school activities and counselling programs should be provided within the school. A safe learning and working climate, in which students and teachers show mutual respect, shows a strong relationship with teachers' job satisfaction. Other TALIS studies based on TALIS 2013 and 2018 data showed the association between teachers' job satisfaction and teachers' participation in decision-making, collaboration and collaborative cultures in school (Wang & Zhang 2020: Liu., & Sui, 2023). Therefore, the factors of teacher-student relationships, providing students' well-being, and providing a collaborative environment for teachers should be considered for delivering positive school

environments. If policymakers and school principals can consider these factors, the teachers will value their profession and be more satisfied with their teaching profession.

### **Limitations and Suggestions for Future Research**

The current study has several limitations. First, although the TALIS questionnaire included a few aspects of school climate, some of the aspects included in the literature in the field are not thoroughly considered, including multi-level influences on teacher level, such as motivation and disciplinary climate and the school level, such as violence, bullying discrimination (Liu, Keeley & Sui, 2020). Secondly, the data is secondary data and may need qualitative aspects to encapsulate specific nuances in terms of cultural contexts, hierarchical structure, level of students and experience. Third, this study is based on the cross-sectional survey of TALIS data and could not provide a causal relationship. Therefore, the longitudinal study should be conducted based on the trend of school climate and teacher job satisfaction. Another suggestion is to explore other factors, such as teacher professional development activities and job demands, to improve teachers' job satisfaction and use more advanced statistical analysis. These aspects of this research could be employed to further this study.

### **Statement of Responsibility**

Hnin Yu Soe: Literature review for analysis, data analysis and interpretation, and writing the conclusion. Paul John Edrada Alegado: Literature review for analysis, analysis of expert opinions, and writing the conclusion.

### **Conflicts of Interest**

This research has no financial, commercial, legal or professional relationship with other organizations or those working with them. There is no conflict of interest that would affect the research.

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