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Determinants of Commitment and Performance of Teachers in the National Training Program in Kunming, Yunnan

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Abstract

Purpose: This paper aims to examine the determinants of commitment and performance of teachers in the National Training Program in Kunming, China. The conceptual framework proposed a causal relationship between leadership, emotion, commitment, knowledge, climate, and performance. **Research design, data, and methodology:** The researcher adopted a quantitative technique (n=500) to collect the data by questionnaire distribution. Non-probability sampling included judgmental sampling to select four Kunming primary and secondary schools, quota sampling to define the sample size, and convenience sampling to collect data and distribute the questionnaires online and offline. The researcher used structural equation modeling (SEM) and confirmatory factor analysis (CFA) to conduct the data analysis, including model fit, reliability, and construct validity. **Results:** The results showed that leadership and emotion significantly affected commitment and used commitment as an intermediate variable to influence teacher performance. Knowledge and climate also had a significant effect on teacher performance. Climate strongly affected teacher performance, followed by commitment and knowledge. **Conclusions:** This indicated that this study achieved the research objectives. Therefore, we suggested that to make the National Training Program (NTP) more effective, policymakers and programmed operators could increase their investment in the factors that affected teacher performance in the NTP and optimize the proportion of investment.

Keywords: Leadership, Emotion, Commitment, Knowledge, Performance

JEL Classification Code: E44, F31, F37, G15

1. Introduction

Cultural and organizational commitment at work significantly and strongly impacted performance (Xenikou & Simosi, 2006). Commitment centered on social interchange and the commitments reached by organizational members affect their performance. They socially exchange their behavior and attitudes with the resources provided by the organization (Meyer et al., 1993). The main difference between these exchange relationships was the mutual social trust and the resulting commitment of individuals to establish and maintain exchange relationships (Jaros et al., 1993). Potential moderators related to real-life relationships, such as teacher commitment, were necessary for previous related research on the relationship between leaders' leadership and the performance dynamics of their followers (De Cremer, 2006).

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Commitment can shape motivation and action (Uzzi, 1997). Those variables that may play a role in the teachers' emotional reframing involve personality traits. Thus, despite the current study's limitations, the findings provided the first evidence of the importance of the factors in the National Training Program (NTP) that impact teacher performance as a key mechanism for making the most of the positive effects of the NTP (Nir, 2009; Tatar et al., 2009).

The findings of Hendry and Zhu (2019) concluded that learning organizations had a significant positive impact on organizational commitment. The organizational commitment had a significant impact on performance. They constructed a conceptual framework that supported the importance of the causal impact between commitment and organizational member performance. Senge (1990), Argyris and Schon (1996), Marquardt (1996), Yukl (1998), Mowday et al. (1982), and Meyer et al. (1993) published relevant studies.

The results of Cameron et al. (2010) showed that group commitment had a significant positive effect on the performance of organizational members. McClelland (1973) referred to employee performance as "competencies." Matuska (2012) further added that to differentiate between the competencies of good and average employees, it was important to consider the expected outcomes of their performance. The basis of this model included mainly teachers' commitment, knowledge, and skills. In earlier studies, the competency criteria emphasized mainly teachers' knowledge and skills, i.e., competency-based teacher performance management (Laudan & Leplin, 1992). Galang (2010) developed a conceptual framework for assessing the performance of organizational members.

Enhancing the performance of organizational members involves not only learning new knowledge from activities such as training provided by the organization but, more importantly, through learning, reconfiguring existing knowledge to create new opportunities to enhance job performance (Mohd Adnan & Valliappan, 2019). In this study, we considered leadership (LE), emotion (EM), commitment (CO), knowledge (KN), and climate (CL) as factors impacting performance (PE).

In 2010, the Chinese Ministry of Education and Finance launched the National Training Program (NTP). By 2020, the National Training Program had offered training services to primary and secondary school teachers nationwide for 10 years. In total, some 16.8 million teachers from 31 provinces, municipalities, and autonomous regions had participated in the NTP, including some 15.74 million participants (94%) in the Midwest Program and the National Training Program for Early Childhood Teachers, and over 60% of participants from the Midwest Region in the Model Training Program. Consequently, the researcher considered the National Training Program (NTP) an important initiative to promote teacher development in China. This study aimed to investigate the factors that influence teachers' performance in Kunming, China, by the National Training Program (NTP) and to explore the operational mechanisms of the NTP.

2. Literature Review

2.1 Leadership

Meyer et al. (2002) found a significant causal relationship between leadership and organizational member performance. Hogg and Knippenberg (2003) demonstrated the relationship between leadership and organizational commitment. They attempted to explain the mechanisms of impact between leadership and organizational commitment. Allen and Meyer (1990) used a five-point Likert scale to create the questionnaire. There were 13 items on the scale in the questionnaire. Based on the analysis of the feedback data, the reliability score for leadership (Cronbach's alpha) was 0.94. Their study used structural equation modeling (SEM) to measure and analyze the multivariate relationships of the conceptual model. Several studies examined the contingent relationship between leadership and commitment and developed the hypothesis that leadership significantly affects commitment, manifested in the following hypotheses:
H1: Leadership has a significant impact on commitment.

2.2 Emotion

Sevda and Sigrid (2016) study concluded that emotion significantly impacted the performance of organizational members, particularly commitment, efficacy, and expectation. Research by Kiefer (2005), Huy (2002), and Mossholder et al. (2000) showed that the emotion of members in an organization significantly impacted their perceptions, decisions, judgments, and behaviors. Weick (1988) proposed a model of "enacting feelings" and measured variables such as commitment, effectiveness, and expectation.

Maitlis and Christianson (2014) introduced a new approach that provides a complex theoretical and empirically tested model of "emotionally arousing" sensation formation. Douglas and Shepherd (2000) used the AIM approach to conduct their study. Their findings provided clear clues about the variables underlying the feeling formation model and the impact of emotions. Based on the above literature, the following research hypotheses emerged from this paper:
H2: Emotion has a significant impact on commitment.

2.3 Commitment

The results of Cameron et al. (2010) showed that group commitment had a significant positive effect on the

performance of organizational members. McClelland (1973) referred to employee performance as "competencies." Matuska (2012) further added that to differentiate between the competencies of good and average employees, it was important to consider the expected outcomes of their performance. The basis of this model included mainly teachers' commitment, knowledge, and skills.

In earlier studies, the competency criteria emphasized mainly teachers' knowledge and skills, i.e., competency-based teacher performance management (Laudan & Leplin, 1992). Galang (2010) developed a conceptual framework for assessing the performance of organizational members. He argued that training, commitment, knowledge, and climate could impact the performance of organizational members. Based on the above literature, the following research hypotheses emerged from this paper:

H3: Commitment has a significant impact on Performance.

2.4 Climate

The organizational climate was within the realm of social cognitive theory and had a significant causal effect on the performance of organizational members. Organizational climate influences organizational members' performance. The climate in an organization influences the performance of its members, and this mechanism of operating based on individual perceptions was consistent with social cognitive theory (SCT), so it was appropriate to collect assessment data at the individual level. The organizational climate was an important tool for operating the relationship between HRM and organizational performance. It was a key factor in shaping the relationship between HRM and organizational performance (Xenikou & Simosi, 2006).

In addition, a strong collaborative climate between organization members could enhance their performance creation (Demirtas & Akdogan, 2015). Teacher training has influenced the performance of organizational members in accomplishing organizational goals by implying a climate of support and respect, for example. Based on the above literature, the following research hypotheses emerged from this paper:

H4: Climate has a significant impact on performance.

2.5 Knowledge

Grant (1996), based on the knowledge-based view (KBV) that knowledge was the most strategically important resource for organizational development, Hult et al. (2004) and Craighead et al. (2009) studied how knowledge impacted the performance of organizational members. Schoenherr et al. (2014) studied tacit (intangible) and explicit (tangible) knowledge in organizations and, in doing so, sought to understand at a more granular level the operational mechanisms by which knowledge management within organizations impacted the performance of organizational members. Hult et al. (2004) measured 'knowledge' using seven first-order constructs, each with at least three items. They accurately described the impact of knowledge in training on the performance of organizational members.

According to Vidal-Salazar et al. (2013) found that this has contributed to the development of the ability of organizational members to transfer, share and create knowledge. Ahmad and Schroeger (2003) found that the knowledge variable significantly impacted the operational mechanism by which training impacted employee performance. High-quality knowledge transferred reinforces the problem-solving abilities and job performance of organizational members. Based on the above literature, the following research hypotheses emerged from this paper:

H5: Knowledge has a significant impact on performance.

2.6 Performance

Jamal (2007) defined “performance” as the efficiency and effectiveness with which individuals complete their work tasks with the available resources. He considered performance as a combination of achievement and effectiveness, the behavior, manner and results of work over a certain period, and its objective impact. Performance is the level of involvement of an organization's members in various organizational activities. Borman and Motowidlo (1997) found that performance was the efficiency of the incumbent, mainly in terms of his activities that contributed to the organization's technical core. Judge and Ferris (1993) found that performance was very important in the organization's human resources. Inayatullah and Jehangir (2013) concluded that work environment, motivation, and workability determine a person's performance. Enhancing the performance of organizational members involves learning new knowledge from activities such as training provided by the organization and, more importantly, reconfiguring existing knowledge to create new opportunities to enhance job performance (Mohd Adnan & Valliappan, 2019).

3. Research Methods and Materials

3.1 Research Framework

The foundational theories referenced in this study included the Social Identity Theory of Leadership (SITL), designed by Hogg (2001); the Self-Determination Theory (SDT), designed by Tajfel and Turner (1979); organizational Commitment (OCT), designed by Mowday et al. (1982), Commitment-Trust Theory (CTT) designed by Cook and Emerson (1978), Social Cognitive Theory (SCT) designed

by Wolfe（1988） and organizational knowledge Creation Theory (OKCT) designed by Nonaka (1994). The researcher has developed a conceptual framework for this study, described in Figure 1.

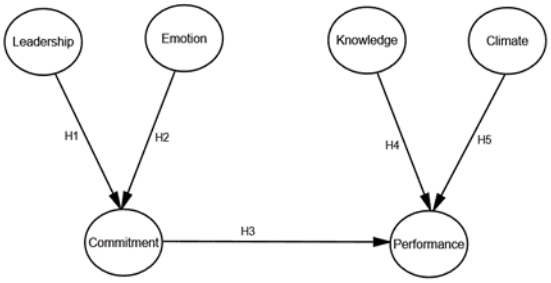

Figure 1: Conceptual Framework

H1: Leadership has a significant impact on commitment.
H2: Emotion has a significant impact on commitment.
H3: Commitment has a significant impact on performance.
H4: Knowledge has a significant impact on performance.
H5: Climate has a significant impact on performance.

3.2 Research Methodology

The researcher administered the questionnaire to the target population using a quantitative non-probability sampling method (Steffens et al., 2015). Primary and secondary school teachers in Kunming, the capital city of Yunnan Province, were the target population for this study. The researcher conducted questionnaires in four primary and secondary schools in Kunming and sub-wrote the data from these questionnaire responses. For an ethical concern, researcher ensured that participants in their studies provide informed and voluntary consent to participate. This involves fully explaining the purpose, procedures, risks, and benefits of the research in a clear and understandable manner, and obtaining participants' explicit agreement before proceeding.

The questionnaire for this study consisted of three sections. The first section consisted of screening questions. The second section was a 5-point Likert scale for all variables. The scale items measured the five hypotheses of this study. The measures ranged from (1) strongly disagree to (5) strongly agree. The third sections were demographic questions. These questions included gender, age, and grade level of teaching. Before conducting the large-scale questionnaire, the researcher administered a pilot test to 50 respondents. The questionnaire used for the pilot test passed the expert's Item-Objective Consistency Index (IOC) score.

Using Cronbach's Alpha method, the questionnaire for this study passed validity and reliability tests (Hartog & Verburg, 2004). The researcher distributed the questionnaires to the target respondents and received good feedback from 500 responses. Using statistical tests with SPSS AMOS, we analyzed this feedback data. In order to test the accuracy and validation of the convergence, we used confirmatory factor analysis (CFA). These measures validated the fit of this study's conceptual framework and ensured the model's validity and reliability. Based on these efforts, the researcher examined the causal relationships between the variables using structural equation modeling (SEM).

3.3 Population and Sample Size

The target population is teachers in the National Training Program in Kunming, China from four primary and secondary schools. Kline (2011) determines minimum sample size for structural model should be around 200. Nonetheless, this study subjects to 500 as applicable for the reliability of the data analysis.

3.4 Sampling Technique

Non-probability sampling included judgmental sampling to select four Kunming primary and secondary schools, quota sampling to define the sample size as of Table 1, and convenience sampling to collect data and distribute the questionnaires online and offline. From February to October 2020, the researcher conducted a questionnaire survey. The process of screening the data ensured that the target population was suitable. They were teachers from four primary and secondary schools in Kunming, the capital city of Yunnan Province, China. The principals of these four schools supported this study, and they encouraged the teachers to participate in answering the online questionnaire.

Table 1: Sample Units and Sample Size

Primary and Secondary Schools	Population Size	Proportional Sample Size
Guandu Secondary School Affiliated to Yunnan Normal University	219	151
Junfa City Secondary School attached to Yunnan Normal University	187	129
Kumenghu Primary School attached to Yunnan Normal University	166	114
Rongchuang Primary School attached to Yunnan Normal University	153	106
Total	**725**	**500**

4. Results and Discussion

4.1 Demographic Information

Demographic information collected from participants was on the gender of the teachers and the grade level they were teaching (Van Veen & Sleegers, 2009). We distributed questionnaires to 500 teachers in four primary and secondary

schools in Kunming. Of the respondents, there were 319 females and 181 males, accounting for 63.8% and 36.2%, respectively. There were 264 (52.8%) secondary school teachers and 236 (47.2%) primary school teachers. There were 233 (46.6%) teachers between the ages of 25 and 35, 156 (31.2%) between the ages of 36 and 46, and 111 (22.2%) between the ages of 47 and 57. Table 2. presents demographic information for this study.

Table 2: Demographic Profile

Demographic and General Data (N=500)		Frequency	Percentage
Gender	Female	319	63.8%
	Male	181	36.2%
Age	25 to 35 years old	233	46.6%
	36 to 46 years old	156	31.2%
	47 to 57 years old	111	22.2%
Schools	Secondary School teachers	264	52.8%
	Primary School teachers	236	47.2%

4.2 Confirmatory Factor Analysis (CFA)

This paper used confirmatory factor analysis (CFA) to measure each variable in the conceptual framework of this study. The measurement results showed that all scale items for each variable were significant. In addition, the factor loading values for each scale item were acceptable, indicating that the conceptual framework of this study was a good fit. All the factor loading values for this study were greater than 0.30, all the p-values were less than 0.05, all of the construct reliabilities were greater than 0.70, and all of the mean extracted variances were greater than 0.50. These estimates were all significant, as shown in Table 3.

Table 3: Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source of Questionnaire (Measurement Indicator)	No. of Item	Cronbach's Alpha	Factors Loading	CR	AVE
Climate (CL)	Adela et al. (2012)	3	0.952	0.920-0.952	0.952	0.869
Commitment (CO)	Muhammad (2019)	3	0.876	0.809-0.867	0.879	0.708
Emotion (EM)	Sevda and Sigrid (2016)	3	0.945	0.884-0.951	0.946	0.854
Knowledge (KN)	Abdul Shabbir et al. (2019)	3	0.884	0.748-0.929	0.886	0.724
Leadership (LE)	Amlan et al. (2020)	3	0.922	0.798-0.947	0.925	0.805
Performance (PE)	Muhammad (2019)	3	0.899	0.775-0.934	0.897	0.745

Table 4 shows the convergent validity and discriminant validity for this study. The fit values were validated to be acceptable for the measurement model. This study used CMIN/DF, GFI, AGFI, NFI, CFI, TLI, and RMSEA as model fit indicators in the CFA test.

Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	< 5.00 (Al-Mamary et al., 2015; Awang et al., 2012)	381.740/168 or 2.344
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.933
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.907
NFI	≥ 0.80 (Wu & Wang, 2006)	0.955
CFI	≥ 0.80 (Bentler, 1990)	0.973
TLI	≥ 0.90 (Hair et al., 2006)	0.967
RMSEA	< 0.08 (Hu & Bentler, 1999)	0.052

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index and RMSEA = Root mean square error of approximation,
Source: Created by the author.

Table 5 demonstrates the square roots of the level differences extracted, and these values indicate that the correlations of all the variables in this study are appropriate. Thus, the convergent validity and discriminant validity are supportive for this study. These two values were validated to be acceptable. All the measurements validated the validity of the structural model estimated in this study.

Table 5: Discriminant Validity

	CL	PE	KN	EM	CO	LE
CL	**0.932**					
PE	0.641	**0.851**				
KN	0.342	-0.072	**0.897**			
EM	0.855	0.596	0.352	**0.863**		
CO	0.786	0.391	0.500	0.703	**0.864**	
LE	0.584	0.205	0.817	0.562	0.669	**0.841**

Note: The diagonally listed value is the AVE square roots of the variables
Source: Created by the author.

4.3 Structural Equation Model (SEM)

Awang et al. (2012) recommended that the Chi-square/degrees-of-freedom (CMIN/DF) ratio for model fit measures was less than 5.00, a criterion also supported by Al-Mamary et al. (2015). Sica and Ghisi (2007) suggested AGFI and NF were both greater than 0.80. Bentler (1990) suggested that the CFI was greater than 0.80. Hair et al. (2006) suggested that the TLI was greater than 0.90. Hu and Bentler (1999) suggested that the RMSEA was less than 0.08. The researchers used SPSS AMOS version 26 for the SEM calculations and adjusted the model. The fit index results for this study presented a good fit. CMIN/df = 3.941,

GFI = 0.892, AGFI = 0.864, NFI = 0.917, CFI = 0.936, TLI = 0.927 and RMSEA = 0.077. Table 6. demonstrates these values.

Table 6: Goodness of Fit for Structural Model

Index	Acceptable	Statistical Values Adjustment
CMIN/DF	< 5.00 (Al-Mamary et al., 2015; Awang et al., 2012)	721.266/183 or 3.941
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.892
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.864
NFI	≥ 0.80 (Wu & Wang, 2006)	0.917
CFI	≥ 0.80 (Bentler, 1990)	0.936
TLI	≥ 0.90 (Hair et al., 2006)	0.927
RMSEA	< 0.08 (Hu & Bentler, 1999)	0.077

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index, and RMSEA = Root mean square error of approximation
Source: Constructed by author

4.4 Research Hypothesis Testing Result

Based on the regression weights and R2 variances for each variable, the researcher calculated the significance of the study model. Table 7. presents the results of the calculations. These results supported all the hypotheses of this study. Leadership influenced Commitment (β=0.202), Emotion influenced Commitment (β=0.219), Commitment influenced Performance (β=0.313), Knowledge influenced Performance (β=0.270), and Climate influenced Performance (β=0.378).

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-Value	Result
H1: LE → CO	0.202	4.261*	Supported
H2: EM → CO	0.219	4.618*	Supported
H3: CO → PE	0.313	7.191*	Supported
H4: KN → PE	0.270	6.368*	Supported
H5: CL → PE	0.378	9.057*	Supported

Note: * p<0.05
Source: Created by the author

According to the results in Table 7. the researcher concluded that the establishment of **H1** indicated that leadership was one of the key drivers of commitment with a criterion coefficient value of 0.202 in its structural path. The establishment of **H2** indicated that emotion was one of the key drivers of commitment, with a criterion coefficient value of 0.219 in its structural path. The establishment of **H3** indicated that commitment was one of the key drivers of performance, with a criterion coefficient value of 0.313 in its structural path. The establishment of **H4** indicated that knowledge was one of the key drivers of performance, with a common coefficient value of 0.270 in its structural path. Establishing **H5** indicated that climate was one of the key drivers of performance, with a common coefficient value of 0.378 in its structural path.

5. Conclusion and Recommendation

5.1 Conclusion and Discussion

The purpose of this study was to provide a comprehensive analysis of the impact of the National Training Program (NTP) on teacher performance in Kunming, China. In 2010, China's Ministry of National Education and Ministry of Finance comprehensively promoted the implementation of the NTP. By 2020, the National Training Program (NTP) had provided 10 years of systematic training for primary and secondary school teachers nationwide. Therefore, conducting an in-depth study on the factors and mechanisms influencing the National Training Program (NTP) on teacher performance was necessary. This study advanced five hypotheses, which explored the relationships between the factors.

This paper surveyed Kunming, the provincial capital city of Yunnan Province. We administered questionnaires to 500 teachers who had participated in the National Training Program (NTP) of the four primary and secondary schools in Kunming. We analyzed the data from these questionnaire responses. The analysis of this data supported the conceptual framework of this paper. Previous relevant literature informed this conceptual framework. Based on previous related research, we used teacher commitment as a mediating factor influencing teacher performance (Bartlett, 2001). The 500-point sample data of this study passed the SPSS and JAMOVI measurement analysis. The conceptual framework of this study passed the AMOS test and supported the item factor structure of this study. The CFA confirmed the suitability of this study's factor structure and validation model and that the relevant data were a good fit (West, 2002).

The data collected by the researcher from the 500 questionnaires passed the confirmatory factor analysis CFA measure. These results demonstrated that, passed the validity and reliability tests, the conceptual model of this study stood. The results of the convergent validity tests - composite reliability, Cronbach's alpha reliability, factor loading and mean-variance extraction analysis, and discriminant validity - proved that the concept of this study holds (Steigenberger, 2015). This study's structural equation modeling (SEM) was used to analyze the impact of the National Training Program (NTP) on teacher performance in Kunming, China. These results demonstrated that the research hypotheses presented in this paper are valid. They supported all five of the research hypotheses in this study.

The results showed that, first, in the National Training Program (NTP), leadership and emotion directly affected teacher commitment. The commitment directly impacted teacher performance (Rhoades et al., 2001). Knowledge and climate also had a direct impact on teacher performance. This means that the commitment of teachers reached in the National Training Program (NTP), the systematic knowledge imparted, and the communication climate influenced teacher performance. This impact is direct and significant.

Secondly, in the National Training Program (NTP), the three factors of commitment, knowledge, and climate directly impacted teacher performance. This was the operational mechanism found in this study. Although this effect was modest, this quantitative study provides support and a basis for policy in the National Training Program (NTP). It also provided new ideas for the implementation of the National Training Program (NTP) that facilitated the optimal allocation of relevant resources

5.2 Recommendation

Based on the findings of this paper, we recommend the following. Firstly, we suggested improving the level of training leadership of training leads by developing targeted measures to optimize resourcing options. For example, it would be helpful to establish a mechanism by which leadership levels can assess the results linked to the support of follow-up resources.

Secondly, we recommend that the National Training Program (NTP) spend resources on forming professional communities, using the achievement of the Teachers' Commitment as an opportunity (Dunham et al., 1994). Teachers would rely on the Internet in these relaxed professional communities to continue their professional exchange after their training.

Finally, we recommend that the National Training Program (NTP) optimize the proportion of investment in these three factors to utilize its limited resources better. The resources invested in the National Training Program (NTP) required introducing a feedback mechanism. On this basis, there was continuous feedback on the National Training Program (NTP) in optimizing training knowledge, creating a good climate for academic exchange, guiding, and reaching teachers' commitment, etc. Subsequent research about the impact of the National Training Program (NTP) on teacher performance would start from a higher level.

5.3 Limitation and Further Study

The limitations of this study were that the variables in this study had an individual level, and the data to measure these variables came from a centralized period (Glick, 1985). The teachers who provided these data were from specific schools. It would be useful in future studies to include variables like those in this study, to use a longitudinal or experimental design, and to collect data consistently at different points in time, which would take the study further.

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