

The Effect of Emotional Intelligence, Job Satisfaction, and Professional Identity on Secondary Teachers' Engagement

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ARTICLE INFO

Keywords: Structural Model, Teacher Engagement, PLS-SEM

Received : 21, July

Revised : 22, August

Accepted: 26, September

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ABSTRACT

Teacher engagement and the factors affecting it have been studied previously, but a limited number of studies have investigated structural models. This study used the partial least squares structural equation modeling (PLS-SEM) approach to examine the effects of emotional intelligence, job satisfaction, and professional identity on teacher engagement. An online survey was carried out with a sample of 92 secondary teachers across Nueva Ecija, Philippines. WarpPLS 7.0 was used to analyze the measurement and structural models. The results indicated that emotional intelligence and job satisfaction affect teacher engagement. This study proposes a structural model with meaningful predictive accuracy that can be used as the basis for reformulating or formulating programs to improve teacher engagement.

INTRODUCTION

In the dynamic landscape of modern organizations, the concept of work engagement has gained increasing recognition as a vital contributor to both employee well-being and organizational success. Consequently, work engagement, characterized by a positive and fulfilling affective and motivational state, not only safeguards workers' mental health (Pepe, Addimando, Dagdukee, & Veronese, 2019), but moreover fosters a culture of involvement and enthusiasm (Sudibjo & Sutarji, 2020). This notion has become particularly pertinent as organizations confront the dual challenge of nurturing an engaged, high-performing workforce while nevertheless prioritizing employee well-being and job satisfaction amidst mounting job demands and an aging workforce (Guglielmi, Avanzi, Chiesa, Mariani, Bruni, & Depolo, 2016).

The significance of engagement extends beyond conventional workplaces, resonating even more profoundly within the realm of education. Teacher engagement plays a vital role in promoting quality education and fostering student success (Hoque, 2023; Wang, Zhang, & Zhang, 2022). Moreover, Sandholm, Simonsen, Ström and Fagerlund (2022) underscore the pivotal role played by engaged teachers who infuse their classrooms with enthusiasm, dedication, and commitment; accordingly, they cultivate a dynamic and positive learning environment. In addition, teachers' engagement, actively fostering healthy teacher-student relationships while displaying enthusiasm for enhancing teaching pedagogy and responsiveness to global quality teaching demands, emerges as an effective educator, enriching students' lives (Abiodullah, Dur-e-Sameen, & Aslam, 2019). This multidimensional construct embodies the intrinsic motivation that propels educators to go beyond the norm; ordinarily, engaged teachers always search for new and innovative ideas for students and implement them in the classroom (Abiodullah, Dur-e-Sameen, & Aslam, 2019). Notwithstanding, engaged teachers are not confined by a rigid pedagogical approach; instead, they embrace adaptability and responsiveness to the evolving needs and diverse learning styles of their students (Abiodullah, Dur-e-Sameen, & Aslam, 2019; Sandholm, Simonsen, Ström & Fagerlund, 2022). Engaged teachers channel their energy not only into classroom instruction but also into creating a vibrant and inclusive learning atmosphere that nurtures curiosity, critical thinking, and holistic development.

Explicitly identifying and understanding the factors that affect teacher engagement holds significant implications for the enhancement of educational policies and the development of effective programs. While prior research has explored teacher engagement and its factors, a limited number of studies have investigated structural models. Thus, this study aimed to examine factors affecting teacher engagement and propose a structural model.

LITERATURE REVIEW

Teacher engagement was conceptualized as a motivational construct that encompassed the voluntary allocation of teachers' resources and energy towards various teaching-related activities (Klassen, Yerdelen, & Durksen, 2013). Moreover, previous studies have delved into the effect of emotional intelligence, job satisfaction, and professional identity on teacher engagement.

Emotional intelligence was characterized as the capacity of individuals to perceive and articulate emotions, integrate emotions into cognitive processes, comprehend and analyze emotions, and manage emotions both within themselves and in interactions with others (Mayer & Salovey, 1997). According to a study, emotional intelligence predicts teacher engagement (Abiodullah, Dur-e-Sameen, & Aslam, 2019). Similarly, studies also suggest that teacher's emotional intelligence is positively related to work engagement (Siddique & Rana, 2021; Sudibjo & Sutarji, 2020). Hence, it is hypothesized that emotional intelligence affects teacher engagement (H1).

Job satisfaction is a significant factor in teacher engagement as revealed by previous studies. Moreover, job satisfaction refers to how people feel about their jobs; it is the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs (Spector, 1997). Highly engaged teachers are usually satisfied with their jobs (Zhang, He, & Fu, 2021). Previous studies also showed that job satisfaction affects teacher engagement (Butakor, Guo, & Adebani, 2020; Iqbal, Aziz, Farooqi, & Ali, 2016; Guglielmi, Avanzi, Chiesa, Mariani, Bruni, & Depolo, 2016; Pepe, Addimando, Dagdukee, & Veronese, 2019; Sudibjo & Sutarji, 2020; Zang & Feng, 2023). Hence, it can be hypothesized that job satisfaction affects teacher engagement (H2).

Teacher professional identity refers to a teacher's optimistic attitude and a strong sense of commitment to the profession (Sun, Zhu, Lin, Sun, Wu, & Xiao, 2022). It was found to be an important factor in teacher engagement and job satisfaction, as revealed by several studies. For instance, a study conducted by Sun, Zhu, Lin, Sun, Wu, and Xiao (2022) found that individuals with high professional identity show higher work engagement and career satisfaction. Furthermore, Zhang, Meng, Yang, and Liu (2018) also discovered that professional identity significantly affects job satisfaction and work engagement. Additionally, a teacher's professional identity has been shown to predict work engagement (Gu & Zhang, 2023). Notably, Kabeel and Eisa (2017) suggest a positive and significant correlation between job satisfaction and professional identity. Hence, it can be hypothesized that professional identity affects both teacher engagement (H3) and job satisfaction (H4).

Several studies have shown that emotional intelligence is positively related to job satisfaction among teachers. Specifically, a study conducted by Tabatabaei and Farazmehr (2015) found that teachers' emotional intelligence was significantly and positively correlated with their job satisfaction. Furthermore, regression analysis revealed that emotional intelligence emerges as the most significant predictor of job satisfaction (Singh & Kumar, 2016). In addition, studies also suggest that emotional intelligence affects job satisfaction (Alam & Ahmad, 2018; Salim, Nasir, Arip, & Mustafa, 2012; Siddique & Rana, 2021). Hence, it can be hypothesized that emotional intelligence significantly affects job satisfaction (H5).

This study also investigated the indirect effect of emotional intelligence and professional identity on teacher engagement with job satisfaction as the mediator. A mediator absorbs to some extent the effect of the exogenous variable

on an endogenous variable (Hair, Hult, Ringle & Sarstedt, 2016). Thus, it is also hypothesized that job satisfaction mediates the effect of emotional intelligence on teacher engagement (H6) and job satisfaction mediates the effect of professional identity on teacher engagement (H7).

From the identified research hypotheses, Figure 1 presents the proposed research model on the effect of emotional intelligence, job satisfaction, and professional identity on secondary teachers' engagement.

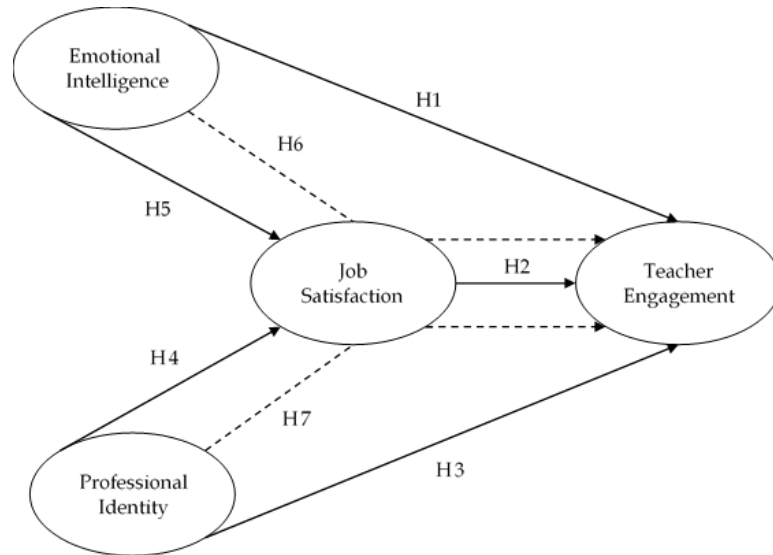


Figure 1. Proposed Research Model

METHODOLOGY

Participants of the Study

The respondents to the study were 92 Secondary Teachers from Nueva Ecija, Philippines. To estimate the sufficiency of the sample size, inverse square root and gamma-exponential methods can be used (Kock & Hadaya, 2018). Using WarpPLS version 7.0, with a minimum absolute significant path coefficient of 0.23, significance level of 0.05, and power level of 0.75, the inverse square root method suggested 102 samples while gamma-exponential method suggested 90 samples (see Figure 2). The sample size in this study was 92 which is between 90 and 102.

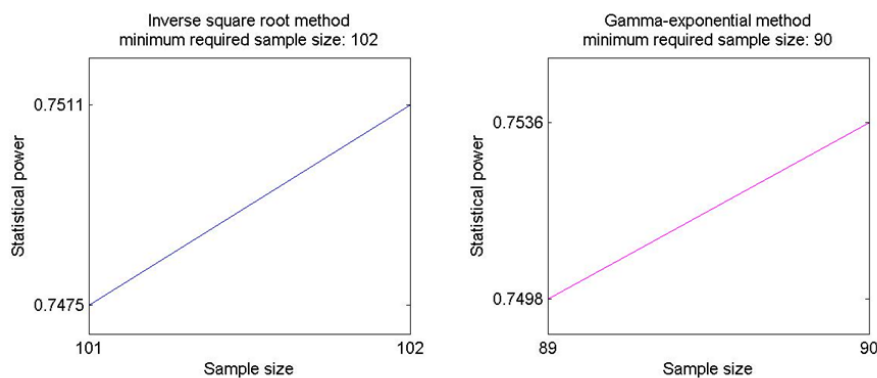


Figure 2. Results of Inverse Square Root and Gamma-Exponential Methods

Research Instrument

The research instrument used in this study consisted of a questionnaire comprising four parts – constructs on emotional intelligence, job satisfaction, professional identity, and teacher engagement. The Teacher Engagement Scale, adopted from Klassen, Yerdelen, and Durksen (2013), consisted of 16 items. Respondents used a 7-point Likert scale to indicate the frequency with which they engaged in various activities as teachers, ranging from "Never" to "Always." This scale measured the extent of teacher engagement in professional activities. Emotional intelligence was assessed using a scale developed by Wong and Law (2004), which comprised 16 items. Respondents indicated their agreement or disagreement with each item on a 7-point Likert scale, reflecting their self-perceived emotional intelligence abilities. The Teacher Job Satisfaction Scale, adapted from the TIMSS 2015 study, included 7 items. Respondents indicated the frequency of job satisfaction-related feelings using a 4-point Likert scale, ranging from "Never or Almost Never" to "Very Often." This scale measured teachers' experience of job satisfaction in their teaching roles. The section on teacher's professional identity consisted of 15 items and was based on the scale developed by Gracia, Rodriguez, Pedrajas, and Carpio (2021). Respondents expressed their agreement or disagreement with each item on a 5-point Likert scale, ranging from "Totally Disagree" to "Totally Agree." This scale captures the extent to which teachers identify with their professional roles.

Data Analysis

A predictive-correlational design was used in this study to verify emotional intelligence, job satisfaction, and professional identity as factors affecting teacher engagement. The partial least squares-structural equation modeling (PLS-SEM) approach was employed to estimate the parameters of the structural model. The assessment of PLS-SEM results includes evaluation of the measurement model and the structural model. The evaluation of the measurement model includes tests for validity and reliability. The evaluation of the structural model includes assessment of path coefficients of the model, effect sizes, collinearity, coefficient of determination, and predictive relevance (Hair, Hult, Ringle & Sarstedt, 2016). A mediation analysis was also conducted to investigate the mediating effect of job satisfaction on the effect of emotional intelligence and professional identity on teacher engagement. It measures how a mediator, to some extent, absorbs the effect of the exogenous variable on an endogenous variable (Hair, Hult, Ringle & Sarstedt, 2016).

RESULTS

Evaluation of the Measurement Model

The evaluation of the measurement model includes measures of the validity and reliability of the constructs. Reliability is concerned with the ability of an instrument to measure consistently. Internal consistency describes the extent to which all the items in a test measure the same construct (Tavakol & Dennick, 2011). Composite reliability (CR) and Cronbach's alpha (CA) are measures of internal consistency, with an acceptable coefficient of ≥ 0.70

(Nunnally & Bernstein, 1994). Table 1 presents the coefficients of CA and CR for each latent variable. As can be seen, the coefficients of CR and CA are above 0.70. Thus, the latent variables emotional intelligence, teacher engagement, job satisfaction, and professional identity are reliable.

In terms of validity measurements, both convergent and discriminant validity were assessed. Validity is concerned with the extent to which an instrument measures what it is intended to measure (Tavakol & Dennick, 2011). An instrument has good convergent validity if the items associated with each latent variable are understood by the respondents in the same way as they were intended by the designers of the instrument (Kock, 2015). The measures for convergent validity are loading and average variance extracted (AVE). The p-values for each loading must be equal to or less than .05 and each loading must have a value of 0.5 and above (Hair, Black, Babin, & Anderson, 2009). The values of the AVEs must be equal to or greater than 0.5 (Kock & Lynn, 2012). However, if AVE is less than 0.5, but composite reliability is higher than 0.6, the convergent validity of the construct is still adequate (Fornell & Larcker, 1981). Table 1 presents the item loading and the AVEs of each latent variable. As can be seen, the item loadings and the AVEs for each latent variable have values above 0.5. Thus, the latent variables emotional intelligence, teacher engagement, job satisfaction, and professional identity satisfied the acceptable convergent validity. However, several items were eliminated because they did not meet the criteria.

Table 1. Convergent Validity and Reliability Measures

Construct	No. of items	Item Loading	AVE	CA	CR
Teacher Engagement	14	0.705-0.813	0.535	0.932	0.941
Emotional Intelligence	15	0.627-0.872	0.428	0.903	0.917
Job Satisfaction	7	0.727-0.881	0.740	0.941	0.952
Professional Identity	14	0.642-0.848	0.455	0.906	0.921

All item loadings are significant at 0.001 ($p < .001$). AVE=average variance extracted; CR=composite reliability; CA=Cronbach's alpha

Table 2 presents the discriminant validity measures for each latent variable. An instrument has good discriminant validity if the items in each latent variable are not confused by the respondents with the items in other latent variables (Kock, 2015). The measure of discriminant validity is the square root of the AVE coefficient. The square root of the AVE of every latent construct should be greater than any of the correlations involving the said construct (Fornell & Larcker, 1981). As can be seen, the square root of the AVE of each latent construct is greater than any of the correlations involving the construct. Thus, the items for emotional intelligence, teacher engagement, job satisfaction, and professional identity have discriminant validity.

Table 2. Discriminant Validity Using Fornell and Larcker Criterion

	TE	EI	JS	PI
Teachers' Engagement (TE)	0.731			
Emotional Intelligence (EI)	0.538	0.654		
Job Satisfaction (JS)	0.463	0.345	0.860	
Professional Identity (PI)	0.449	0.627	0.444	0.675

Diagonal elements are the square root of AVE of constructs, whereas the off-diagonal elements are the correlation between constructs.

Evaluation of the Structural Model

The evaluation of the structural model involves the assessment of path coefficients of the structural model, effect sizes, coefficient of determination (R^2), and predictive relevance (Q^2). Figure 3 presents the PLS path model on the predictors of Work Engagement. The beta coefficients (β) are the path coefficients of the structural model. As can be seen, the beta coefficients between emotional intelligence and teacher engagement ($\beta=0.47, p<.01$), job satisfaction and teacher engagement ($\beta=0.32, p<.01$), emotional intelligence and job satisfaction ($\beta=0.23, p=0.01$), professional identity and job satisfaction ($\beta=0.32, p<.01$) are significant and positive. However, the beta coefficient between professional identity and teacher engagement ($\beta=0.05, p=0.31$) is not significant.

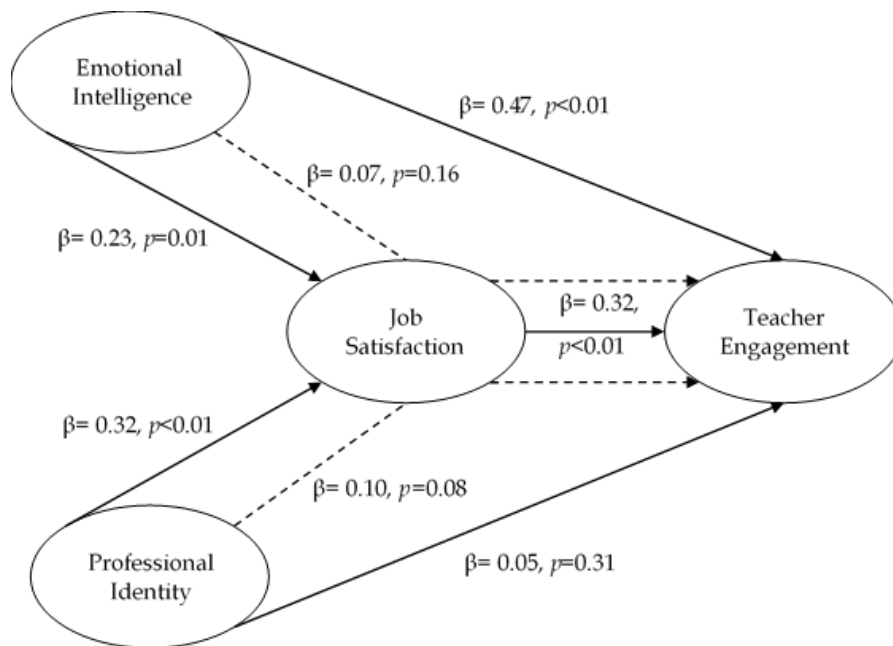


Figure 3. Research Model with Parameter Estimates

Table 3 presents the direct and indirect effects of the PLS path model. Analysis of the data showed that emotional intelligence significantly and positively affects teacher engagement ($\beta=0.47, p<.01$) with a medium to large effect size (Cohen's $f^2 = 0.290$). Hence, H1 is supported. Job satisfaction significantly and positively affects teacher engagement ($\beta=0.32, p<.01$) with a medium effect size (Cohen's $f^2 = 0.161$). The result suggests that H2 is supported.

Moreover, teachers' professional identity does not significantly affect teacher engagement ($\beta=0.05$, $p=0.31$). Thus, H3 is not supported. On the other hand, teachers' professional identity significantly and positively affects job satisfaction ($\beta=0.38$, $p<0.01$) with a small to medium effect size (Cohen's $f^2=0.143$). Therefore, H4 is supported. In addition, emotional intelligence significantly and positively affects job satisfaction ($\beta=0.32$, $p<0.01$) with a small to medium effect size (Cohen's $f^2=0.093$). Hence, H5 is supported. Analysis of data showed that the indirect effects of emotional intelligence are not statistically significant and do not affect teacher engagement through the mediating factor of job satisfaction ($\beta=0.07$, $p=0.16$). This indicates that H6 is not supported. Similarly, results also revealed that the indirect effect of teachers' professional identity is not statistically significant and does not affect teacher engagement through the mediating factor of job satisfaction ($\beta=0.10$, $p=0.08$). Thus, H7 is not supported.

Table 3. Direct and Indirect Effects

	β	SE	p-value	f^2
Direct Effects				
H1. EI → TE	0.47	0.092	<0.01	0.290
H2. JS → TE	0.32	0.096	<0.01	0.161
H3. PI → TE	0.05	0.103	0.31	0.024
H4. PI → JS	0.32	0.096	<0.01	0.143
H5. EI → JS	0.23	0.098	0.01	0.093
Indirect Effects				
H6. EI → JS → TE	0.07	0.073	0.16	0.045
H7. PI → JS → TE	0.10	0.072	0.08	0.047

Legend: EI = Emotional Intelligence; TE = Teachers' Engagement; JS = Job Satisfaction; PI = Teachers' Professional Identity; f^2 is Cohen's (1988) effect size: 0.02=small, 0.15=medium, 0.35=large.

The assessment of full collinearity is part of the evaluation of the structural model. Kock & Lynn (2012) proposed the full collinearity test as a comprehensive procedure for the simultaneous assessment of both vertical and lateral collinearity. If all full collinearity variance inflation factors (VIFs) are equal to or lower than 3.3, the model can be considered free of common method bias. Table 4 presents the coefficients of full collinearity VIFs for the variables in this study. As can be seen, the full collinearity VIFs of teachers' engagement, emotional intelligence, professional identity, and job satisfaction range from 1.397 to 1.907, all lower than 3.3. Hence, the measurement model is said to have no vertical or lateral collinearity.

The coefficient of determination or simply R^2 and the predictive relevance or simply Q^2 were also assessed. The R^2 coefficient is the variance percentage in the outcome variable that is explained by the predictor variables that are hypothesized to affect it (Kock, 2017). Table 4 presents the R^2 coefficients for teachers' engagement and job satisfaction. The R^2 coefficient for job satisfaction is 0.237. This indicates that 23.7% of the variance in job satisfaction can be explained by emotional intelligence and professional identity. The R^2 coefficient for teacher engagement is 0.475. This indicates that 47.5% of the variance in

teachers' engagement can be explained by the predictors – emotional intelligence, professional identity and job satisfaction. In addition, the Q² coefficient indicates the predictive accuracy of the PLS path model. Q² values larger than zero are meaningful. Values higher than 0, 0.25 and 0.50 depict small, medium and large predictive accuracy of the PLS path model (Hair, Risher, Sarstedt, & Ringle, 2018). As can be seen, the Q² coefficient for teacher engagement is 0.457 and the Q² coefficient for job satisfaction is 0.219. This indicates the predictive accuracy for job satisfaction and teachers' engagement is meaningful.

Table 4. Collinearity Assessment, Coefficient of Determination, and Predictive Relevance

Constructs	Full Collinearity VIF	R ²	Q ²
Teachers' Engagement	1.611	0.475	0.457
Emotional Intelligence	1.907		
Professional Identity	1.397		
Job Satisfaction	1.831	0.237	0.219

DISCUSSION

The present study confirmed that emotional intelligence significantly and positively affects teacher engagement, indicating that teachers who possess higher emotional intelligence are more likely to be engaged in their teaching activities. Prior studies also suggested that emotional intelligence significantly and positively affects teachers' engagement (Abiodullah, Dur-e-Sameen, & Aslam, 2019; Alam & Ahmad, 2018; Siddique & Rana, 2021; Su, Zhang, Xie, & Zhao, 2022; Sudibjo & Sutarji, 2020; Wang, 2022). The present study also confirmed that job satisfaction significantly and positively affects teacher engagement. This suggests that when teachers are satisfied with their jobs, they are more likely to invest themselves in their teaching roles. Job satisfaction contributes to a sense of fulfillment, which in turn enhances engagement with teaching. Several studies also suggest that job satisfaction positively affects teacher engagement (Iqbal, Aziz, Farooqi, & Ali, 2016; Guglielmi, Avanzi, Chiesa, Mariani, Bruni, & Depolo, 2016; Sudibjo & Sutarji, 2020; Zang & Feng, 2023; Zhang, He, & Fu, 2021; Pepe, Addimando, Dagdukee, & Veronese, 2019).

Moreover, the study found that professional identity does not significantly affect teacher engagement. While teachers' professional identity is important for their sense of self within the teaching profession, this study did not find evidence to support the notion that it directly affects their engagement in teaching activities. However, this contradicts studies suggesting that professional identity affects work engagement (Gu & Zhang, 2023; Zhang, Meng, Yang, & Liu, 2018). On the other hand, teachers' professional identity was found to significantly and positively affect job satisfaction. Teachers tend to express higher levels of job satisfaction when they have a strong sense of professional identity, which includes feelings of competence, commitment, and mastery in their role. This is in congruence with the studies of Sun et al. (2022) and Zhang et al. (2018). In addition, the present study confirmed that emotional intelligence significantly and positively affects job satisfaction, indicating that a teacher with

a high level of emotional intelligence tends to have high levels of satisfaction at work. Their capacity for emotion control, empathy, and handling social situations makes for a happier and more fulfilling work environment. This is aligned with previous studies suggesting that emotional intelligence affects job satisfaction (Singh & Kumar, 2016; Tabatabaei & Farazmehr, 2015; Siddique & Rana, 2021; Alam & Ahmad, 2018; Salim, Nasir, Arip, & Mustafa, 2012).

Furthermore, findings showed that the indirect effect of emotional intelligence is not statistically significant and does not affect teacher engagement through the mediating factor of job satisfaction. This suggests that job satisfaction may not contribute to the strength of the effect of emotional intelligence on teacher engagement. In essence, emotional intelligence may directly affect teacher engagement, bypassing the need for job satisfaction as a mediator in this context. Similarly, results also revealed that the indirect effect of teachers' professional identity is not statistically significant and does not affect teacher engagement through the mediating factor of job satisfaction. This indicates that job satisfaction did not mediate the effects of teachers' professional identity on teacher engagement. In essence, teachers' professional identity may directly affect their engagement without the need for job satisfaction as a mediator.

CONCLUSIONS AND RECOMMENDATIONS

In conclusion, this study utilized the PLS-SEM approach to investigate the effects of emotional intelligence, job satisfaction, and professional identity on secondary teachers' engagement. The results show that emotional intelligence and job satisfaction affect teacher engagement, which highlights their pivotal roles in fostering a more engaged teaching workforce. The research model was able to predict the effects of these factors on teacher engagement with a medium to large predictive accuracy. The structural model can be used as a conceptual basis for reformulating or formulating educational programs and policies to improve teacher engagement. A structural model provides a framework for analyzing the relationships among variables and can offer a deeper understanding of the complex factors affecting teacher engagement. By employing a structural model, researchers can examine the direct and indirect effects of various factors on teacher engagement, providing valuable insights into the underlying mechanisms and pathways.

FURTHER STUDY

While the predictive accuracy of PLS path model on the factors affecting teacher engagement is meaningful, teacher engagement remains multi-faceted with a likelihood of other contributing factors such as work-life balance, passion for the profession, and intrinsic motivation. Hence, the structural model developed and supported with PLS-SEM analysis can be further studied with additional factors.

ACKNOWLEDGEMENT

The authors express their gratitude to Eduardo L. Josen Memorial College for their invaluable support and to Sir Arsenio Gardoce Jr. for his guidance throughout the research process.

REFERENCES

- Abiodullah, M., Dur-e-Sameen, & Aslam, M. (2019). Emotional Intelligence as a Predictor of Teacher Engagement in Classroom. *Institute of Education and Research*, 42(1), 127-140. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1258049.pdf>
- Alam, A., & Ahmad, M. (2018). The role of teachers' emotional intelligence in enhancing student achievement. *Journal of Asia Business Studies*, 12(1), 31-43. <https://doi.org/10.1108/jabs-08-2015-0134>
- Butakor, P. K., Guo, Q., & Adebajji, A. (2020). Using structural equation modeling to examine the relationship between Ghanaian teachers' emotional intelligence, job satisfaction, professional identity, and work engagement. *Psychology in the Schools*, 58(3), 534-552. <https://doi.org/10.1002/pits.22462>
- Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39. <https://doi.org/10.2307/3151312>
- Gracia, E. P., Rodríguez, R. S., Pedrajas, A. P., & Carpio, A. J. (2021). Teachers' professional identity: validation of an assessment instrument for preservice teachers. *Heliyon*, 7(9), e08049. <https://doi.org/10.1016/j.heliyon.2021.e08049>
- Gu, J., & Zhang, J. (2023). Study on the relationship between the professional identity and the work engagement of teachers in private universities. *International Journal of Innovative Research and Scientific Studies*, 6(3), 562-569. <https://doi.org/10.53894/ijirss.v6i3.1594>
- Guglielmi, D., Avanzi, L., Chiesa, R., Mariani, M. G., Bruni, I., & Depolo, M. (2016). Positive Aging in Demanding Workplaces: The Gain Cycle between Job Satisfaction and Work Engagement. *Frontiers in Psychology*, 7. <https://doi.org/10.3389/fpsyg.2016.01224>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2009). Multivariate data analysis. *Prentice Hall*.
- Hair, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). A primer on partial least squares structural equation modeling (PLS-SEM). *Sage Publications*.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: indeed a silver bullet. *The Journal of Marketing Theory and Practice*, 19(2), 139-152. <https://doi.org/10.2753/mtp1069-6679190202>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2-24. <https://doi.org/10.1108/eb-11-2018-0203>

- Hoque, K. E., Wang, X., Yang, Q., & Norzan, N. (2023). The factors associated with teachers' job satisfaction and their impacts on students' achievement: a review (2010–2021). *Humanities & Social Sciences Communications*, 10(1). <https://doi.org/10.1057/s41599-023-01645-7>
- Iqbal, A., Aziz, F., Farooqi, T. K., & Ali, S. (2016). Relationship between Teachers' Job Satisfaction and Students' Academic Performance. *Eurasian Journal of Educational Research*, 16(65), 1–35. <https://doi.org/10.14689/ejer.2016.65.19>
- Kabeel, A. R., & Eisa, S. a. E. M. (2017). Relationship between job satisfaction and professional identity among psychiatric nurses. *Egyptian Nursing Journal (Print)*. <https://doi.org/10.4103/2090-6021.206939>
- Klassen, R. M., Yerdelen, S., & Durksen, T. L. (2013). Measuring Teacher Engagement: Development of the Engaged Teachers Scale (ETS). *Frontline Learning Research*, 1(2). <https://doi.org/10.14786/flr.v1i2.44>
- Kock, N. (2015). Common method bias in PLS-SEM. *International Journal of e-Collaboration*, 11(4), 1–10. <https://doi.org/10.4018/ijec.2015100101>
- Kock, N. (2021). WarpPLS user manual: version 7.0. Laredo, TX: ScriptWarp Systems. Retrieved from https://scriptwarp.com/warppls/UserManual_v_7_0.pdf
- Kock, N., & Hadaya, P. (2016). Minimum sample size estimation in PLS-SEM: The inverse square root and gamma-exponential methods. *Information Systems Journal*, 28(1), 227–261. <https://doi.org/10.1111/isj.12131>
- Kock, N., & Lynn, G. S. (2012). Lateral collinearity and Misleading Results in Variance-Based SEM: An illustration and recommendations. *Journal of the Association for Information Systems*, 13(7), 546–580. <https://doi.org/10.17705/1jais.00302>
- Law, K. S., Wong, C. S., & Song, L. J. (2004). The construct and criterion validity of emotional intelligence and its potential utility for management studies. *Journal of Applied Psychology*, 89(3), 483–496. Retrieved from <https://emotivity.my/wp-content/uploads/How-Emotionally-Intelligent-are-You-Wong-and-Law-Emotional-Intelligence-Scale-WLEIS.pdf>
- Mayer, J.D. and P. Salovey, 1997. What is Emotional Intelligence. In: Emotional Development and Emotional Intelligence: Implications for Educators, Salovey, P. and D. Sluyter (Eds.). Basic Books, New York, pp: 3-31.
- Pepe, A., Addimando, L., Dagdukee, J., & Veronese, G. (2019). Psychological distress, job satisfaction, and work engagement among Palestinian teachers: a cross-sectional study. *The Lancet*, 393, S40. [https://doi.org/10.1016/s0140-6736\(19\)30626-9](https://doi.org/10.1016/s0140-6736(19)30626-9)

- Salim, S. S. S., Nasir, R., Arip, M. a. S. M., & Mustafa, M. C. (2012). The Role of Emotional Intelligence on Job Satisfaction among School Teachers. *The Social Sciences*, 7(1), 125–129. <https://doi.org/10.3923/sscience.2012.125.129>
- Sandholm, D., Simonsen, J., Ström, K., & Fagerlund, Å. (2022). Teachers' experiences with positive education. *Cambridge Journal of Education*, 53(2), 237–255. <https://doi.org/10.1080/0305764x.2022.2093839>
- Siddique, A., & Rana, R. A. (2021). Teachers' Emotional Intelligence and Work Engagement. *VFAST Transactions on Education and Social Sciences*, 9(4), 153–161.
- Singh, B., & Kumar, A. (2016). Effect of emotional intelligence and gender on job satisfaction of primary school teachers. *European Journal of Educational Research*, 5(1), 1–9. <https://doi.org/10.12973/eu-jer.5.1.1>
- Spector, P. E. (1997). *Job Satisfaction: Application, Assessment, Causes, and Consequences*. Thousand Oaks, CA: Sage.
- Su, H., Zhang, J., Xie, M., & Zhao, M. (2022). The relationship between teachers' emotional intelligence and teaching for creativity: The mediating role of working engagement. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.1014905>
- Sudibjo, N., & Sutarji, T. (2020b). The roles of job satisfaction, well-being, and emotional intelligence in enhancing the teachers' employee engagements. *Management Science Letters*, 2477–2482. <https://doi.org/10.5267/j.msl.2020.4.002>
- Sun, B., Zhu, F., Lin, S., Sun, J., Wu, Y., & Xiao, W. (2022). How Is Professional Identity Associated with Teacher Career Satisfaction? A Cross-Sectional Design to Test the Multiple Mediating Roles of Psychological Empowerment and Work Engagement. *International Journal of Environmental Research and Public Health*, 19(15), 9009. <https://doi.org/10.3390/ijerph19159009>
- Tabatabaei, S. O., & Farazmehr, Z. (2015). The Relationship between Emotional Intelligence and Iranian Language Institute Teachers' Job Satisfaction. *Theory and Practice in Language Studies*. <https://doi.org/10.17507/tpls.0501.25>
- Wang, J., Zhang, X., & Zhang, L. J. (2022). Effects of teacher engagement on students' achievement in an online English as a foreign language classroom: the mediating role of autonomous motivation and positive emotions. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.950652>

- Wang, L. (2022). Exploring the relationship among teacher emotional intelligence, work engagement, Teacher Self-Efficacy, and Student Academic Achievement: a Moderated Mediation model. *Frontiers in Psychology, 12*. <https://doi.org/10.3389/fpsyg.2021.810559>
- Zang, L., & Feng, Y. (2023). Relationship between job satisfaction and work engagement in Chinese kindergarten teachers: Vocational delay of gratification as a mediator. *Frontiers in Psychology, 14*. <https://doi.org/10.3389/fpsyg.2023.1114519>
- Zhang, D., He, J., & Fu, D. (2021). How can we improve teacher's work engagement? based on Chinese experiences. *Frontiers in Psychology, 12*. <https://doi.org/10.3389/fpsyg.2021.721450>
- Zhang, W., Meng, H., Yang, S., & Liu, D. (2018). The Influence of Professional Identity, Job Satisfaction, and Work Engagement on Turnover Intention among Township Health Inspectors in China. *International Journal of Environmental Research and Public Health, 15*(5), 988. <https://doi.org/10.3390/ijerph15050988>