A Behavioral Science Model in Education: A Structural Equation Modeling (SEM) Analysis of Emotional Intelligence, School Climate, and Teacher Discipline in Early Childhood

Wiwik Setyowati[1*], Joko Sutarto[1], Diana[1]

[1] Master Program in Early Childhood Education, Universitas Negeri Semarang, Semarang, Indonesia.

Abstract: This study addresses the problem of low teacher discipline in early childhood education (ECE), which is influenced by various psychological and organizational factors. The research aimed to analyze the relationships among emotional intelligence, school climate, work motivation, and teacher discipline. A mixed-methods approach was used involving 100 ECE teachers in Semarang City selected through purposive sampling. Quantitative data were obtained through standardized questionnaires and analyzed using structural equation modeling (SEM), while qualitative data were collected through semi-structured interviews with teachers and principals. SEM analysis showed a good model fit ($\chi^2/df = 1.89$; CFI = 0.95; TLI = 0.94; RMSEA = 0.052). Emotional intelligence significantly affected work motivation ($\beta = 0.41$, $p < 0.001$) and teacher discipline ($\beta = 0.34$, $p = 0.001$). School climate also significantly influenced work motivation ($\beta = 0.38$, $p < 0.001$) and discipline ($\beta = 0.29$, $p = 0.003$). Work motivation had a positive effect on teacher discipline ($\beta = 0.30$, $p = 0.001$) and partially mediated the effects of emotional intelligence and school climate. The study concludes that strengthening emotional intelligence, building a supportive school climate, and enhancing work motivation are essential strategies to improve teacher discipline in ECE settings.

Keywords: Early childhood education; Emotional intelligence; School climate; Teacher discipline; Work motivation

Introduction

Early childhood education (ECE) is a fundamental stage in building children's cognitive, social, and emotional foundations, in which teacher quality largely determines the effectiveness of learning (Nelson & Volpe-Kohler, 2024; Su et al., 2022). In the context of science learning, teacher discipline plays a crucial role because inquiry, experimentation, and exploration activities require order, safety, and pedagogical consistency (Martin et al., 2016; Pianta et al., 2005). Discipline does not merely refer to formal compliance but also reflects teachers' ability to regulate emotions, maintain motivation, and build positive interactions that support the classroom climate (Collie et al., 2012; Jennings & Greenberg, 2009).

Behavioral science provides a comprehensive analytical framework for understanding teacher behavior by examining emotional, motivational, and organizational factors that influence professional practices. Emotional intelligence contributes significantly to reducing teacher stress, improving interpersonal relationships, and supporting effective classroom management, as reported in numerous empirical studies (Chaudhary et al., 2024). A positive school climate characterized by leadership support, collegial collaboration, and open communication shows

strong associations with teacher motivation, job satisfaction, and discipline (Aldridge & Fraser, 2016; Cohen et al., 2009; Hoy & Tarter, 1997). Work motivation, both intrinsic and extrinsic, serves as a key mediator that strengthens teachers' commitment to fulfilling professional responsibilities (Deci & Ryan, 2013; Herzberg et al., 2011).

The field of early childhood education (ECE) presents unique emotional demands because teachers interact closely with young children who require empathy, patience, and consistent socio-emotional support. Many ECE institutions in Indonesia experience challenges such as inconsistent teacher discipline, limited emotional regulation skills, and variations in school climate quality. Several studies have identified issues related to teacher professionalism, organizational culture, and motivation that influence teaching performance, with previous findings emphasizing the importance of competence and effective school management in shaping educational outcomes (Muliyadi et al., 2021; Susilawati et al., 2019). These conditions illustrate a real gap between expected teacher professionalism and the conditions observed in the field.

Research on emotional intelligence, school climate, motivation, and discipline often appears fragmented because previous studies tended to examine these variables separately. Empirical evidence that integrates these psychosocial factors into one comprehensive model remains limited, particularly in Indonesian early childhood contexts that rely heavily on emotional engagement and a positive classroom climate (Gagaramusu et al., 2024). A systematic investigation using robust analytical techniques such as structural equation modeling (SEM) is still uncommon, leaving a notable gap in understanding how these variables interact to influence teacher discipline.

The novelty of this study lies in the development and empirical testing of a behavioral science model that simultaneously examines emotional intelligence and school climate with work motivation as a mediating variable to predict teacher discipline. This approach offers a holistic perspective by analyzing the dynamic relationships among the variables within a single integrated framework using SEM. A model of this kind contributes new empirical evidence that enhances theoretical development in educational psychology.

The importance of this research is reflected in the urgent need to improve teacher discipline as a foundation for consistent instructional quality and effective early childhood learning. Insights from this study hold practical value for policymakers and school leaders by informing strategies such as emotional intelligence training, strengthening school climate conditions, and implementing motivation-enhancing programs. The relevance of these efforts is supported by

findings from Doyan et al. (2020), which highlight the role of motivational factors and strong school leadership in enhancing teacher performance.

Method

This research was conducted from June to October 2023 in early childhood education (ECE/PAUD) institutions across Semarang City, Indonesia. A total of 100 teachers participated in the study, selected through purposive sampling to ensure representation from schools with diverse levels of resources and organizational support.

This study employed an explanatory quantitative research design using structural equation modeling (SEM) to analyze the psychosocial factors influencing teacher discipline in ECE settings. The research examined four main variables: emotional intelligence, school climate, work motivation, and teacher discipline.

The research procedure consisted of several stages: (1) Preparation, including instrument selection, adaptation, and expert validation. (2) Pilot testing to assess item clarity and reliability. (3) Data collection through the distribution of standardized questionnaires to teachers. (4) Data cleaning, including coding, checking completeness, and handling missing values. (5) Data analysis using SPSS and AMOS. (6) Interpretation and reporting of findings.

Emotional intelligence was measured using the Wong and Law Emotional Intelligence Scale (WLEIS), covering self-awareness, emotion regulation, empathy, and relationship management. School climate was assessed using indicators adapted from Cohen et al., (2009) and Hoy et al. (1997), focusing on leadership support, collaboration, communication openness, and sense of safety. Work motivation was measured based on Self-Determination Theory of Deci et al. (2013) and Herzberg et al. (2011), while teacher discipline was assessed through punctuality, rule compliance, teaching consistency, and professional responsibility.

All instruments used a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Instrument validity and reliability were tested using exploratory factor analysis (EFA) and Cronbach's Alpha.

Quantitative data analysis included descriptive statistics, correlation testing, and SEM to examine direct and indirect relationships among variables. Mediation analysis followed the Byrne (2013) procedure and was validated through bootstrapping. Ethical considerations were observed through informed consent, anonymity, and institutional ethics approval.

To ensure that each variable in this study was measured accurately and consistently, a set of indicators and statement items was developed based on established theoretical frameworks and supported by

findings from previous empirical research. The measurement instruments were carefully selected to reflect the core dimensions of emotional intelligence, school climate, work motivation, and teacher discipline, allowing for a comprehensive assessment of the psychosocial factors examined in this study. All items were adapted to suit the context of early childhood education while maintaining conceptual alignment with the original theoretical constructs. The complete details of the variables, their indicators, example items, and the scale types used in this research are summarized in Table 1.

Table 1. Variables, Indicators, Items, and Scale Types

Variable	Indicator	Items	Scale Type
Emotional Intelligence	Self-awareness Emotion regulation Empathy Relationship management	"I am aware of my emotions when facing teaching challenges." "I can control my emotions when students misbehave."	5-point Likert
School Climate	Leadership support Collaboration among teachers Openness of communication Sense of safety	"The principal provides support for teachers' professional growth." "Teachers in this school collaborate well with each other."	5-point Likert
Work Motivation	Intrinsic motivation (interest in teaching, sense of responsibility) Extrinsic motivation (salary, recognition, job security)	"I feel motivated to teach because I enjoy the learning process with children." "Recognition from my school motivates me to perform better."	5-point Likert
Teacher Discipline	Punctuality Compliance with institutional rules Consistency in teaching practices Professional responsibility	"I always arrive on time to start teaching activities." "I consistently follow the rules set by the school."	5-point Likert

Result and Discussion

Result

Before examining the structural relationships, it was necessary to evaluate the overall goodness-of-fit indices to determine whether the SEM model adequately represented the observed data. This step ensures that the model meets the required statistical criteria and provides a reliable basis for interpreting the relationships among the variables. By assessing indices such as χ^2/df, CFI, TLI, RMSEA, GFI, and AGFI, the study verifies that the proposed model fits the data well and can be meaningfully used for further hypothesis testing.

Table 2. Model Fit Indices

Fit Index	Value	Threshold	Interpretation
χ^2/df	1.89	< 3.00	Good model fit
CFI	0.95	≥ 0.90	Excellent fit
TLI	0.94	≥ 0.90	Strong fit
RMSEA	0.052	≤ 0.08	Acceptable fit
GFI	0.92	≥ 0.90	Good fit
AGFI	0.90	≥ 0.90	Adequate fit

The results indicate that the model fits the observed data well. Key indices such as CFI (0.95), TLI (0.94), and RMSEA (0.052) are within recommended thresholds, suggesting that the hypothesized relationships can be meaningfully examined.

After confirming the model fit, the direct structural relationships among emotional intelligence, school climate, work motivation, and teacher discipline were analyzed.

Table 3. Direct Effects

Path	β	p-value	Significance
Emotional Intelligence -Work Motivation	0.41	<0.001	Significant
School Climate - Work Motivation	0.38	<0.001	Significant
Work Motivation - Teacher Discipline	0.30	0.001	Significant
Emotional Intelligence -Teacher Discipline	0.34	0.001	Significant
School Climate - Teacher Discipline	0.29	0.003	Significant

The findings show that both emotional intelligence and school climate significantly enhance teachers' work motivation, which in turn positively influences discipline. Moreover, emotional intelligence and school climate directly contribute to discipline, confirming the multidimensional role of both personal and organizational factors.

To further test the mediating role of work motivation, an indirect effect analysis was conducted to determine whether motivation acted as a pathway linking emotional intelligence and school climate to teacher discipline. This analysis clarified how these

factors influenced discipline not only directly but also indirectly through increased teacher motivation.

Table 4. Indirect (Mediating) Effects

Mediation Path	Indirect β	p-value	Significance
Emotional Intelligence - Work Motivation - Discipline	0.12	0.004	Significant
School Climate - Work Motivation - Discipline	0.11	0.006	Significant

The results reveal that work motivation partially mediates the effects of emotional intelligence and school climate on teacher discipline. This suggests that while personal and organizational factors directly influence discipline, their impacts are amplified when channeled through increased motivation.

Discussion

The results of this study show that emotional intelligence significantly predicts teacher motivation and discipline, as indicated by the strong path coefficients found in the model. Emotional intelligence enables teachers to regulate emotions, remain calm when facing challenges, and maintain positive interactions with children. This finding is consistent with research showing that emotional intelligence reduces burnout and enhances teacher wellbeing, as reported by García-Garnica et al. (2022) and Qualter et al. (2012). Studies in educational psychology also confirm that emotional competence strengthens classroom climate and improves instructional interactions, as presented by Rivers et al. (2013) and Mayer et al. (2008).

Evidence from other international studies further reinforces the importance of emotional intelligence in teaching behavior. Teachers who possess strong emotional capacities demonstrate better classroom management and instructional quality, as found by Kwon et al. (2022)) and Ferreira et al. (2021). These results align with the present study, which reveals that emotional intelligence exerts both direct and indirect effects on teacher discipline. Indonesian studies by Pratiwi (2021) also support this conclusion by showing that emotional control contributes to more consistent teaching routines.

The influence of school climate on teacher discipline is also confirmed by the significant coefficients in this research. Supportive leadership, collaboration, and communication openness create environments where teachers feel motivated and responsible. This is consistent with findings by Cohen et al. (2009), Taguma et al. (2012) and Konold et al. (2018), who emphasize that positive school climate enhances teacher engagement and compliance with professional

norms. Aldridge et al. (2016) also demonstrate that teachers working in healthy school climates report higher satisfaction and responsibility in their instructional practices.

Similar conclusions are reflected in studies examining school organizational behavior. Effective school climates foster psychological safety, mutual trust, and motivation, which ultimately influence discipline and work ethics. For example, Howes et al. (2008) and Mashburn et al. (2008) found that high quality classroom interactions are strongly shaped by the climate created by school leadership. Slot (2018) also emphasized that school environmental quality is a strong predictor of consistent teaching behaviors in early childhood education settings.

Motivation serves as a mediating factor between emotional intelligence and school climate, as supported by the results of this study. High intrinsic and extrinsic motivation encourages teachers to maintain discipline, commit to tasks, and demonstrate consistent professional behavior. This is aligned with findings from Skaalvik et al. (2017), Richardson et al. (2010) and Han et al. (2016), who highlight the importance of motivation in teacher performance. Deci et al. (2000) also provide theoretical support through self-determination theory, explaining that well internalized motivation drives teachers to fulfill responsibilities even in challenging conditions.

International studies further strengthen this argument by showing that teacher motivation predicts persistence, job satisfaction, and adherence to professional standards. Taguma et al. (2012) and Peters et al. (2019) report that motivated teachers maintain better classroom environments. Studies by Patel et al. (2021) and Anderson et al. (2022) also explain that teacher motivation is shaped by both personal psychological resources and school structural support. These patterns correspond with the mediation results in this study, which show that motivation strengthens the link between emotional intelligence, school climate, and teacher discipline.

The integrated interpretation of results indicates that teacher discipline in early childhood education emerges from the interplay of emotional, motivational, and organizational factors. This conclusion is consistent with multifactor behavioral models proposed by Richardson et al. (2010), Pereira et al. (2020) and Pereira et al. (2020), who argue that teacher behavior is shaped by both internal attributes and contextual influences. The combined significance of emotional intelligence, school climate, and motivation reflects similar findings in ECE quality frameworks developed by Taguma et al. (2012) and Pianta et al. (2005).

The results also reveal interesting contextual insights. The coefficient of emotional intelligence found

in this study appears slightly higher than those in studies conducted in Western contexts, suggesting cultural differences in emotional reliance within teaching practice. The pattern is similar to findings by Mashburn et al. (2008) showing that emotionally warm interactions are particularly essential in early childhood settings. Indonesian teachers may rely more heavily on emotional connectedness and empathy, which explains the stronger statistical relationship observed.

Practical implications arise from these findings. Strengthening emotional intelligence through training programs may enhance teacher resilience and reduce stress. Improving school climate through leadership development and collaborative structures can reinforce consistent teacher behavior. Motivation can be improved through recognition systems, workload adjustments, and professional development opportunities. These recommendations align with international frameworks for improving teacher professionalism as suggested by Kline (2015) and Byrne (2013), who emphasize that psychological and organizational conditions must be addressed together to increase teacher effectiveness.

Conclusion

This study concludes that emotional intelligence, school climate, and work motivation are interrelated factors that significantly influence the discipline of early childhood education (ECE) teachers in Indonesia. Teachers with higher emotional intelligence, supported by a positive school climate and strong motivation, tend to demonstrate greater professional responsibility and rule adherence. Beyond these findings, the study highlights broader scientific implications by reinforcing the relevance of behavioral science frameworks in understanding teacher professionalism, particularly in emotionally demanding ECE environments. However, this study is limited by its cross-sectional design and reliance on self-reported data, which may not fully capture dynamic behavioral changes over time. Future research is encouraged to employ longitudinal or experimental designs to examine causal relationships more robustly, include larger and more diverse samples across regions, and integrate qualitative methods to explore deeper emotional and motivational experiences of teachers. Such advancements will strengthen theoretical development and provide richer insights for improving teacher discipline and the quality of early childhood education.

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