Basic Psychological Needs Satisfaction Mediates the Role of Work Climate and Early Childhood Education Teachers' Intrinsic Work Motivation in Rural Areas

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Abstract

Teachers' intrinsic work motivation serves as a significant indicator of the quality of their work and their ability to deliver exceptional performance. The purpose of this study was to explore the mediating role of basic psychological needs satisfaction in the relationship between work climate and intrinsic work motivation among early childhood education teachers in rural areas. A total of 107 early childhood education teachers participated in this research by completing questionnaires on organizational climate, basic psychological needs satisfaction, and interest or pleasure questionnaires from the intrinsic motivation inventory. Data analysis was conducted using IBM SPSS 22 and Smart PLS 3. The findings of the study indicate that work climate influences basic psychological needs satisfaction and intrinsic work motivation. Moreover, the results highlight the role of basic psychological needs satisfaction as a mediating factor between work climate and intrinsic work motivation among early childhood education teachers in rural areas. Enhancing the mediating role of basic psychological needs satisfaction can foster a more positive work climate, leading to increased teaching effectiveness and work motivation among teachers.

Keywords: *basic psychological needs satisfaction, intrinsic work motivation, teacher, work climate*

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Introduction

Teachers are pivotal individuals who hold a crucial role in the academic and non-academic development of students at school (Jin et al., 2022; Sheridan et al., 2022). According to the Law of the Republic of Indonesia Number 14 of 2005 concerning teachers and lecturers (2005), teachers are

professional educators engaged in various activities, such as educating, teaching, guiding, directing, training, assessing, and evaluating students at the primary and secondary education levels, thereby demonstrating their professional competence. Understanding a teacher's identity and role is key to achieving success in their work. Teachers' professional competence not only enhances their own professional learning but also contributes to the professional development of their fellow teachers, ultimately improving the organizational capabilities of the school (Wang et al., 2021). This aligns with the statement by Jin et al. (2022) that emphasizes the significance of teachers' performance and the improvement of educational quality in both theory and practice.

One of the significant challenges in education is enhancing the quality of education in disadvantaged, outermost, and frontier rural areas. These areas face various educational issues, including teacher shortages, suboptimal teacher competence reflected in mismatches between educational qualifications and fields of study, diverse incentives received by teachers, and inadequate facilities (Febriana et al., 2018; Maria, 2015). Correspondingly, Hermanto et al. (2022) highlight the lack of readiness in terms of human and technological resources in such remote areas, exemplified by the case of Entikong Sanggau in West Kalimantan, which shares a direct border with Sarawak, Malaysia. Yosada (2016) notes the scarcity of educators, facilities, and infrastructure in this region, alongside low teacher welfare and unequal opportunities for education. Similarly, the Riau Islands face challenges in improving education quality due to limited facilities and infrastructure, geographical constraints, high education costs, and a shortage of low-quality teachers (Ginting, 2016).

Research conducted by Barter (2008) in Canada reveals the difficulty in attracting and retaining qualified teaching staff in remote areas, as graduates tend to be drawn to urban centers. Teachers are often hesitant to teach in remote areas due to the challenging accessibility of schools, discomfort with the provided facilities, distance from urban centers, and lack of adequate housing options. Consequently, teachers who were initially placed in remote areas often seek positions in urban areas (Diah A.K & Paramitha, 2012), indicating their negative perceptions of remote areas and a lack of motivation to serve in rural/remote locations (Rahmadi, 2020).

Another factor negatively affecting the quality of education in remote areas is teacher absenteeism. Data from the Education Sector Analytical and Capacity Development Partnership (McKenzie et al., 2014) indicate that the absenteeism rate among primary school teachers in remote areas can reach up to 20%. Teacher absences in the classroom impact the quality of teaching and disrupt the consistency of teaching and learning activities, reflecting low teacher work motivation (Bennell, 2004; McKenzie et al., 2014; Utami & Vioreza, 2021). Guerrero et al. (2012) note that teacher absenteeism is more prevalent in schools located in remote and rural areas in Indonesia. Elementary and junior high school teachers in small rural areas throughout Indonesia often enter the classroom without proper lesson planning, relying solely on textbooks (Sofiah, 2016). Consequently, teacher motivation plays a crucial role in ensuring teaching quality, as highlighted in this study, where the development of teacher work motivation is a significant aspect of high-quality teaching (Salifu & Agbenyega, 2013). Teacher work motivation stems from their engagement in teaching (Collie & Martin, 2017) and their self-determination (Deci & Ryan, 2000). Teacher motivation is influenced by various factors, including intrinsic support related to their duties and responsibilities, extrinsic support related to their pedagogical abilities, and altruistic support stemming from the perception that the teaching profession is socially important due to its impact on children (Mansfield et al., 2012; Richardson et al., 2014). Intrinsic motivation, based on an individual's desire and pleasure in making decisions based on their own ideas and initiatives, facilitates integration with the environment and social context, leading to independent activities (Ryan et al., 2013). Moreover, intrinsic motivation is associated with the satisfaction of universal needs for autonomy, competence, and relatedness, which are essential for individual development according to the self-determination theory (Ryan & Deci, 2013).

Bieg et al. (2011) found that teachers with intrinsic motivation positively influence students' motivation to learn. Similarly, Heins et al. (2012) observed that teachers in Spain demonstrate high intrinsic motivation, while teachers in Lithuania exhibit higher extrinsic motivation in their teaching activities. Levesque et al. (2004) demonstrated that motivated teachers perform their duties more effectively and experience greater job satisfaction. Liu et al. (2019) revealed that intrinsic motivation among teachers arises from progress in teaching practices and positive experiences in school. The intrinsic motivation of prospective millennial teachers is influenced by ongoing self-development and

the pursuit of an ideal lifestyle, which includes aspects such as mutual respect, adequate finances, and work-life balance (Tang et al., 2020).

Considering the significant role of teacher motivation, it is crucial to investigate teachers' intrinsic work motivation in rural areas. Motivation reflects the state and level of teacher development, with intrinsic motivation being the ideal motivation for supporting teacher growth (Liu et al., 2019). Hence, it is important to explore internal and external factors that contribute to teacher motivation. Internal factors that influence teachers' intrinsic work motivation are related to the satisfaction of their basic psychological needs, an essential aspect of motivation development (Ahn et al., 2021; Ryan & Deci, 2017; Utomo et al., 2019). Simultaneously, the external factor influencing teachers' intrinsic work motivation is the work climate in schools. Prior research indicates that the work climate strongly influences teachers' work motivation (Teresia et al., 2021; Wei, 2012). Teacher feedback, although often accompanied by negative evaluations, is an important factor in enhancing intrinsic motivation (Dahling & Ruppel, 2016; Lepper & Chabay, 2010).

Previous studies in other educational domains have identified contextual factors of the teacher work climate that influence teacher motivation through the satisfaction of basic psychological needs (Pelletier & Rocchi, 2016; Utomo et al., 2019). These factors include the relationship between teachers and principals and how teachers perceive students' behavior and motivation during the teaching and learning process (Fernet et al., 2012; Pelletier et al., 2002). Orsini et al. (2020) explain that the work climate, perceptions of student motivation, and satisfaction/frustration of teachers' basic needs predict teachers' autonomous and controlled motivation, with this motivation type positively impacting teaching approaches, particularly for clinical teachers in medical schools. However, no previous studies have explored the quality of teacher motivation and its antecedents and consequences in early childhood teacher education specifically in rural areas. Therefore, this study aims to examine the interaction between work climate, basic psychological needs satisfaction, and teachers' intrinsic work motivation, as school environmental factors, particularly work climate, can positively influence teachers' intrinsic work motivation. The fulfillment of basic psychological needs plays a crucial role because satisfaction in these areas is essential for developing environmental perceptions. This interaction aligns with self-determination theory, which posits that teacher

motivation influences teacher behavior and student motivation through teaching practices that support the satisfaction of basic psychological needs (Deci & Ryan, 1985; Ahn et al., 2021; Ryan & Deci, 2017).

In light of the above, the study aims to test the following hypotheses: (1) basic psychological needs satisfaction partially mediates the relationship between work climate and teachers' intrinsic work motivation; (2) work climate positively influences teachers' intrinsic work motivation; (3) work climate positively influences teachers' basic psychological needs satisfaction; and (4) basic psychological needs satisfaction positively influences teachers' intrinsic work motivation in the context of early childhood education in rural areas.

In general, this study aims to investigate the role of basic psychological needs satisfaction as a mediator in the relationship between work climate and teachers' intrinsic work motivation in early childhood education in rural areas. Specifically, the study aims to explore the influence of work climate on teachers' intrinsic work motivation, the impact of work climate on teachers' basic psychological needs satisfaction, and the effect of basic psychological needs satisfaction on teachers' intrinsic work motivation. The novelty of this research lies in its potential to enhance teacher work motivation and improve the quality of education in rural areas, particularly by focusing on work climate and the mediation of basic psychological needs satisfaction.

Method

Participants

The study included 107 early childhood education teachers (Mean = 1.98; SD = 0.14) from various regions in East Java, specifically Kediri, Tulungagung, and Malang regencies. The participants met the following criteria: (1) teachers engaged in early childhood education, as this level is considered fundamental in the education system; (2) aged between 23 and 59 years, taking into account the developmental stage where individuals can further enhance their intellectual capacity, talents, interests, knowledge, and skills; and (3) a minimum of two years of teaching experience. This research employed a quantitative survey design. Participants completed questionnaires assessing organizational climate, satisfaction of basic psychological needs, and intrinsic motivation. Early childhood education

teachers who agreed to participate in the study accessed the questionnaire through the survey website (https://s.id/TeacherIMS-1, accessed on 8 October 2022) and provided informed consent at the beginning.

Instruments Work climate

The work climate variable was measured using the Organizational Climate Index (OCI), which consisted of 27 items. Participants rated their agreement on a scale from 1 (never) to 4 (very frequently occurs). The OCI measured four aspects: institutional vulnerability (reliability coefficient = 0.87; e.g., "The principal responds to pressure from parents"), collegial leadership (reliability coefficient = 0.94; e.g., "The principal treats all faculty members as his or her equal"), professional teacher behavior (reliability coefficient = 0.88; e.g., "Teachers help support each other"), and achievement press (reliability coefficient = 0.92; e.g., "Parents press for school improvement") (Hoy et al., 2002).

Basic psychological needs satisfaction

The variable of basic psychological needs satisfaction was assessed using a scale consisting of 10 items. These items measured the satisfaction of three needs: autonomy (four items; e.g., "My feelings are taken into consideration at work"), competence (three items; e.g., "I have been able to learn interesting new skills on my job"), and relatedness (three items; e.g., "People at work care about me"). Participants responded on a scale from 1 (very inappropriate) to 7 (very appropriate). The scale demonstrated good reliability with an alpha coefficient of 0.87 (Klaeijsen et al., 2018).

Intrinsic work motivation

The variable of intrinsic work motivation was assessed using the intrinsic motivation inventory, based on the theory of self-determination by Deci and Ryan (1985, 2000). The inventory included a 7-item scale measuring interest or pleasure. Participants rated their agreement on a scale from 1 (very inappropriate) to 7 (very appropriate). Higher scores indicated stronger intrinsic motivation. Examples of inventory statements include: "This activity was fun to do," "I thought this was a boring activity," and "I thought this activity was quite enjoyable" (Deci & Ryan, n.d.).

Data Analysis

Descriptive analysis of participant characteristics was conducted using IBM SPSS 22. The evaluation of the outer model included tests for convergent validity, discriminant validity, and composite reliability. The inner model evaluation encompassed determinant coefficients, the Goodness of Fit test, and hypothesis testing. Smart Partial Least Square analysis version 3 was employed to examine the relationships between variables, confirm the theory, and determine the significance of these relationships (Hair et al., 2017).

Result

Descriptive Analysis Results

The researchers utilized IBM SPSS 22 software to conduct a descriptive analysis of the research participants' characteristics. Table 1 displays the participants' characteristics, including sex, education level, length of work, and age.

Table 1.
Characteristics of research participants

Characteristics	N	%	Average	Standard Deviation
Sex			1.98	0.136
Male	2	2%		
Female	105	98%		
Level of education			2.01	0.217
Diploma	2	2%		
Bachelor	102	95%		
Masters	3	3%		
Length of working			2.00	1.046
< 5 years	43	40%		
6-10 Years	36	34%		
11-15 Years	13	12%		
> 15 Years	15	14%		
Age			2.16	1.167
< 30 Years	46	43%		
> 30-35 Years	17	16%		
> 35-40 Years	25	23%		
> 40 Years	19	18%		

Notes: N=107

Table 1 presents the distribution of the research participants by sex, indicating a predominance of female teachers over male teachers. The participants consisted of adult teachers aged between 23

and 59 years. The majority of participants (82%) fell within the age range of 23-40 years, while the remaining 18% were above 41 years old. Examining the participants' education levels, the data revealed that the most prevalent category was undergraduate, with the remainder being graduate. In terms of the teachers' length of work, 86% had taught for less than 5 to 15 years, while 14% had taught for over 15 years.

Results of the Outer Model Analysis

The outer model analysis in PLS was conducted to assess the validity and reliability of each construct within the developed inner model. Validity testing involved evaluating convergent validity and discriminant validity, while reliability testing was based on composite reliability evaluation. The subsequent explanation presents the outcomes of the outer model:

Convergent Validity

Convergent validity measures the extent to which an indicator positively correlates with other indicators that assess the same construct. An indicator is considered to have convergent validity if its outer loading value exceeds 0.5 in the first-order model. A dimension is deemed to have convergent validity if its T-Statistics value exceeds 1.96 in the second-order model. Conversely, indicators with low outer loading values are considered invalid or non-descriptive of the construct (Hair et al., 2017). The following table displays the outer loading values of each indicator for the research variables (table 2).

Table 2
Outer loading values

Indicator	Outer loading	T-Statistics	Indicator	Outer loading	T-Statistics
Institution_V1	0.870	33.249	Achievement_P7	0.789	22.153
Institution_V2	0.795	20.160	Achievement_P8	0.810	24.541
Institution_V3	0.772	18.462	Competence1	0.877	8.250
Institution_V4	0.906	54.951	Competence2	0.827	5.733
Institution_V5	0.844	32.361	Competence3	0.874	15.749
Collegial_L1	0.828	27.181	Autonomy1	0.803	2.665
Collegial_L2	0.713	14.445	Autonomy2	0.883	22.552
Collegial_L3	0.792	23.966	Autonomy3	0.812	7.182
Collegial_L4	0.852	30.732	Autonomy4	0.823	2.735
Collegial_L5	0.798	22.993	Relatedness1	0.821	20.652
Collegial_L6	0.851	32.249	Relatedness2	0.854	28.715
Collegial_L7	0.828	27.582	Relatedness3	0.782	11.948
Profs. Teacher1	0.666	10.652	Internal_Mot1	0,818	29.310
Profs. Teacher2	0.793	25.076	Internal_Mot2	0,846	44.373
Profs. Teacher3	0.832	25.871	Internal_Mot3	0,805	8.662
Profs. Teacher4	0.834	31.847	Internal_Mot4	0,850	9.917
Profs. Teacher5	0.818	26.892	Internal_Mot5	0,830	27.981
Profs. Teacher6	0.798	27.047	Internal_Mot6	0,850	36.919
Profs. Teacher7	0.816	28.028	Internal_Mot7	0,826	32.623
Achievement_P1	0.783	22.803			
Achievement_P2	0.788	19.462			
Achievement_P3	0.831	26.758			
Achievement_P4	0.852	29.114			
Achievement_P5	0.792	20.952			
Achievement_P6	0.758	16.523			

Based on the provided data, all indicators demonstrate outer loading values above 0.5, indicating their suitability and validity for further analysis. The smallest loading value is observed for the Profs.Teacher1 indicator. Additionally, the table below presents the evaluation of convergent validity for dimensional measurements.

Table 3
The results of the convergent validity of the conceptual model dimension

Path	T-Statistics	p-values
Climate_Work ->Institutional Vulnerability	6.138	0.000
Climate_Work ->Collegial Leadership	8.850	0.000
Climate_Work -> Professional Teacher Behavior	7.667	0.000
Climate_Work ->Achievement Press	6.809	0.000
BPNS -> Autonomy	12.968	0.000
BPNS -> Relatedness	12.411	0.000
BPNS -> Competence	17.064	0.000
Work_Motivation -> Internal Motivation	2.527	0.000

Based on the information presented in Table 3, the results of dimension measurements within the second-order model reveal that the T-Statistics value for each dimension surpasses the threshold of 1.96.

Discriminant Validity

To assess discriminant validity, cross-loading values were examined. An indicator is considered valid if it exhibits the highest cross-loading value within its intended construct, while having lower loading factors for other constructs. Table 4 illustrates that each indicator within the model constructs possesses the highest cross-loading value within its corresponding construct, demonstrating good discriminant validity in constructing their respective constructs.

Table 4
Discriminant validity results

	BPNS	WC	WM	IV	CL	Compt	IMT	Auto	PTB	AP	Relate
BPNS	1,000										
WC	0.404	1,000									
WM	0.708	0.268	0.832								
IV	0.443	0.427	0.415	0.839							
CL	0.574	0.611	0.515	0.760	0.810						
Compt.	0.689	0.137	0.448	0.337	0.317	0.851					
IMT	0.236	0.226	0.274	0.304	0.383	0.137	1,000				
Auto	0.714	0.256	0.588	0.264	0.422	0.216	0.132	0.848			
PTB	0.524	0.587	0.546	0.641	0.824	0.343	0.430	0.320	0.796		
AP	0.434	0.513	0.448	0.838	0.788	0.335	0.310	0.253	0.751	0.801	
Relate	0.698	0.461	0.498	0.369	0.541	0.251	0.276	0.414	0.494	0.375	0.819

Notes: BPNS: Basic psychological needs satisfaction; WC:Work Climate; WM:Work Motivation; IV:Institutional Vulnerability; CL:Collegial Leadership; IMT:Internal Motivation Teacher; Auto:Autonomy; PTB: Professional Teacher Behavior; AP:Achievement Press; Relate: Relatedness; Compt:Competence

Composite Reliability

The subsequent step in the outer model analysis is the assessment of construct reliability. A construct is considered reliable if it achieves a composite reliability value ranging from 0.60 to 0.90 (Hair et al., 2017). The table below presents the composite reliability values for each construct within the conceptual research model (table 5).

Table 5
Value of composite reliability

Construct	Composite Reliability
Institutional Vulnerability	0.922
Collegial Leadership	0.930
Professional Teacher Behavior	0.908
Achievement Press	0.927
Work Climate	0.999
Autonomy	0.837
Relatedness	0.860
Competence	0.839
Basic Psychological Needs Satisfaction	0.993
Teacher intrinsic motivation	0.940
Teacher Work Motivation	0.999

Based on the data presented in the table above, the composite reliability values for each construct within the conceptual model exceed 0.60. These results indicate that each construct utilized in the conceptual research model demonstrates satisfactory construct reliability.

Results of the Inner Model Analysis

The inner model analysis was conducted to examine the relationships between constructs, assess significance values, and determine the R-Square values of the research model. The evaluation at the inner model stage provides insights into the determinant coefficient (R-Square) value, goodness of fit test, and hypothesis testing between constructs.

Determinant Coefficient (R-Square)

The path coefficient evaluation demonstrates the strength of the influence of independent variables on the dependent variable. Conversely, the determinant coefficient (R-Square) measures the extent

to which exogenous variables account for changes in endogenous variables. A higher R-Square value indicates a better predictive model for the research model. According to Chin, as cited in Yamin and Kurniawan (2019), R-Square values are categorized as follows: 0.67 (good), 0.33 (moderate), and 0.19 (weak). The obtained R-Square values, as shown in the table below, were derived from data processing using smart PLS 3.0.

Table 6
R-Square value

Endogenous Variables	R-Square value
Basic Psychological Needs Satisfaction	0.313
Intrinsic Work Motivation	0.331

Table 6 displays the R-Square values for the basic psychological needs satisfaction and work motivation constructs. The basic psychological needs satisfaction construct has an R-Square value of 0.313, indicating that 31.3% of the variation in the magnitude of changes in this construct can be explained by the work climate construct for teachers. Similarly, the work motivation construct has an R-Square value of 0.331, meaning that 33.1% of the changes in the work motivation construct can be explained by the combined influence of the work climate construct and basic psychological needs satisfaction. Based on these R-Square values, the role of the work climate construct in influencing basic psychological needs satisfaction and work motivation can be categorized as moderate.

Goodness of Fit Test

In addition to calculating the R-Square value in the PLS analysis, the conceptual model was assessed using the Goodness of Fit (GoF) measure. The GoF value was derived by multiplying the average communalities index by the average value of the R-Square model. The communalities value for each variable was determined using the blindfolding technique in the cross-validated communality construct section of smart PLS. The GoF values range from 0 to 1, with interpretations of 0.1 (small GoF), 0.25 (moderate GoF), and 0.36 (large GoF) (Tenenhaus et al., 2005). The table below presents the average R-Square values and communalities results.

Table 7
R-Square and communalities average value

Endogenous Variables	R-Square value	Communalities
Basic Psychological Needs Satisfaction	0.313	0.570
Intrinsic Work Motivation	0.331	0.998
Average	0.322	0.784

Based on the data provided in Table 7, the average value of communalities is calculated as 0.784, while the average value of the R-Square model is 0.322. Consequently, the Goodness of Fit (GoF) can be computed as GoF = $\sqrt{}$ (0.784 x 0.322) = 0.502. This GoF value of 0.502 indicates that the developed conceptual model aligns well with the data in a large category. Thus, based on this result, the theoretical model for the development of teachers' intrinsic work motivation can be shaped by the work climate, mediated by the satisfaction of basic psychological needs, as supported by the research data.

Hypothesis Testing of Variable Influences

Hypothesis testing involves evaluating three aspects: β-value, t-statistics, and p-value. The β-value indicates the direction and magnitude of the influence obtained. The t-statistics and p-value determine the significance of the effect between independent variables and the dependent variable. The influence is considered significant if the t-statistics value exceeds 1.96 and the p-value is less than 0.05 (Hair et al., 2017). In this study, the bootstrapping estimation of the PLS method was conducted using 500 samples from 107 available samples. The following image presents the estimation results obtained from the bootstrapping analysis.

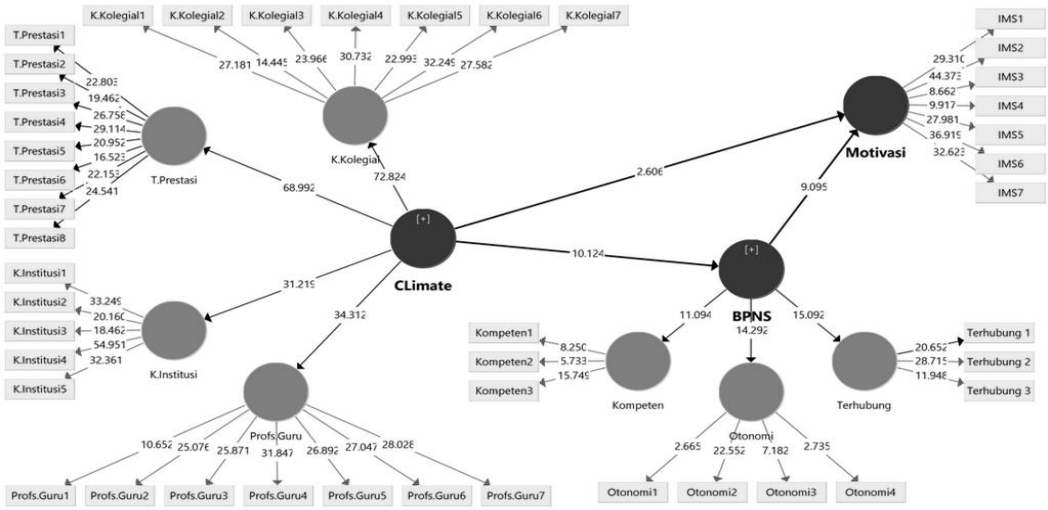
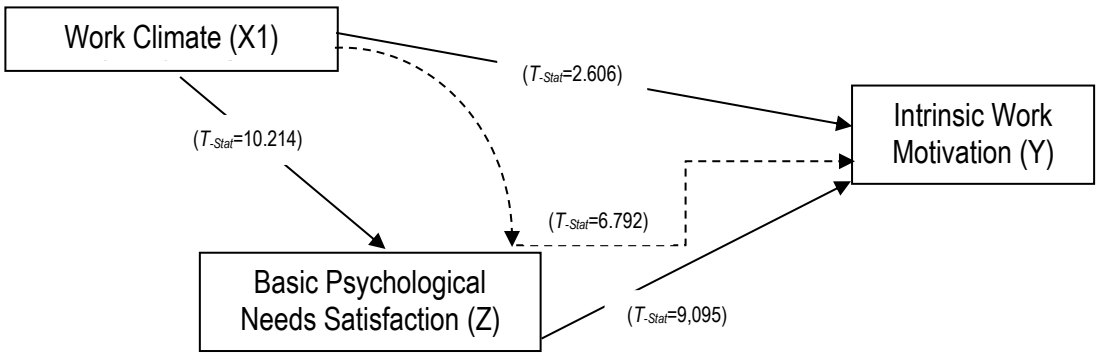


Figure 1. Relationship between variables

The bootstrapping estimation results provide insights into the estimation outcomes of the developed conceptual model, which are summarized in the figure below.



Information:
——→ Direct influence
- - - - - - - - → Indirect influence

Figure 2. Inner model estimation results

Based on the data presented in Table 8, the hypotheses regarding direct and indirect influences proposed in this study were assessed through examination of the β-values, t-statistics, and p-values. The significance of the estimated parameters offers valuable insights into the relationships among the

research variables. The following summarizes the β-values, t-statistics, and p-values obtained from the inner model analysis.

Table 8
Hypotheses test

	Hypotheses	β-values	T-statistics	p-values	Description
	Indirect influence				
H1	Work Climate→ Basic Psychological Needs Satisfaction→Intrinsic Work Motivation	0.335	6.792	0.000	Significant
	Direct influence				
H2	Work Climate→Intrinsic Work Motivation	0.189	2.606	0.000	Significant
H3	Work Climate→ Basic Psychological Needs Satisfaction	0.558	10.124	0.000	Significant
H4	Basic Psychological Needs Satisfaction →Intrinsic Work Motivation	0.637	9.095	0.000	Significant

The first hypothesis, which examines the indirect influence of work climate on teachers' intrinsic work motivation through basic psychological needs satisfaction, yielded a positive beta coefficient of 0.335. The t-statistics value for this indirect influence, measuring 6.792, surpasses the threshold of 1.96, with a significance value of 0.000 (p-value < 0.05). Based on these test results, the research hypothesis was accepted and could be statistically confirmed.

The mediation test, as proposed by Hair et al. (2014) and MacKinnon et al. (2007), suggests that if the influence of the independent variable on the mediating variable and the influence of the mediating variable on the dependent variable are both significant, partial mediation is present. According to Table 8, the t-statistics values for the influence of work climate on intrinsic work motivation and the influence of work climate on satisfaction of basic psychological needs exceed 1.96, indicating significant influence. Additionally, the t-statistics value for the influence of satisfaction of basic psychological needs on intrinsic work motivation is also greater than 1.96, confirming its significant influence. These results demonstrate that satisfaction of basic psychological needs partially mediates the relationship between work climate and intrinsic work motivation among early childhood education teachers in rural areas. A better work climate, mediated by satisfaction of basic psychological needs, leads to an increase in teachers' intrinsic work motivation.

The testing of the second hypothesis reveals that the influence of work climate on teachers' intrinsic work motivation has a beta coefficient value of 0.189, accompanied by a t-statistics value of 2.606 (t-statistics > 1.96) and a significance level of (p-value < 0.05). These findings indicate a positive and significant influence of work climate on the intrinsic work motivation of early childhood education teachers in rural areas, thereby statistically supporting the research hypothesis. Additionally, the testing of the third hypothesis indicates that the influence of work climate on teachers' satisfaction of basic psychological needs exhibits a beta coefficient value of 0.558, with a t-statistics value of 10.214 (t-statistics > 1.96) and a significant p-value (< 0.05). Thus, the work climate significantly impacts the satisfaction of teachers' basic psychological needs, providing further statistical evidence for the research hypothesis. Furthermore, the results of the fourth hypothesis testing demonstrate that the influence of satisfaction of basic psychological needs on teachers' intrinsic work motivation yields a beta coefficient value of 0.558, accompanied by a t-statistics value of 9.095 (t-statistics > 1.96) and a significant p-value (< 0.05). These findings support the conclusion that satisfaction of basic psychological needs significantly influences intrinsic work motivation, further confirming the research hypothesis statistically.

Discussion

The research aims to develop the intrinsic work motivation of PAUD teachers in rural areas by focusing on the role of basic psychological needs satisfaction as a mediator between work climate and intrinsic work motivation. It utilizes the theory of self-determination proposed by Ryan and Deci (2020) to explain teacher intrinsic motivation as a process influenced by internal factors and environmental support. Specifically, the study investigates the impact of work climate on teachers' intrinsic work motivation and basic psychological needs satisfaction, as well as the role of basic psychological needs satisfaction in teachers' intrinsic work motivation.

The results confirm the first hypothesis, showing that basic psychological needs satisfaction partially mediates the relationship between work climate and the intrinsic work motivation of PAUD teachers in rural areas. Basic psychological needs satisfaction acts as a strong mediator between work climate and teachers' intrinsic work motivation. According to Ryan and Deci (2000), motivated individuals

have a strong correlation with personality development and the direction of their actions (Taylor et al., 2009).

The significant influence of work climate on the intrinsic work motivation of teachers in rural areas underscores the teacher's pivotal role in the education system and highlights work climate as a crucial factor in the success of school organizations, impacting both teachers' work motivation and students' motivation to learn. Collegial leadership, a dimension of organizational climate, plays a key role in meeting social needs and achieving school goals. Principals should treat teachers as professional colleagues, fostering openness and a sense of belonging to the school (Rizky et al., 2022).

On the other hand, principals also need to establish clear expectations and performance standards for teachers. This supports the findings of Rizki et al. (2022) and Tambingon (2018), which emphasize the role of the principal's leadership in shaping teachers' motivation through policies, compensation, and rewards. In terms of teacher behavior, those teaching in rural areas demonstrate mutual respect for each other's competence, cooperation, and support, as well as independent assessment. Notably, teachers in rural areas exhibit a high commitment to their work. Persistence, environmental sensitivity, and proficiency in conducting learning activities are characteristics of qualified teachers (Tambingon, 2018).

Basic psychological needs satisfaction among teachers in rural areas is influenced by various work-related situations and conditions, as well as the experience of psychological needs satisfaction, which impacts teacher work motivation. The satisfaction of basic psychological needs has consequences for teaching quality in rural areas (Ruzicka et al., 2017). The research by Ruzicka et al. (2017) demonstrates a strong correlation between the satisfaction of relatedness needs and teachers' teaching experience of 1-5 years. Teachers with more than 5 to 10 years of experience exhibit a moderate level of satisfaction with relatedness needs. Beyond 10 years of experience, teachers' basic psychological needs satisfaction primarily stems from the need for competence. Teachers' work experience is a factor influencing the growth of their intrinsic work motivation, with female teachers, those with lower qualifications, and 6-10 years of work experience being more intrinsically motivated (Van den Berghe et al., 2014; Bukhari et al., 2021).

The theoretical concept of basic psychological needs satisfaction, which is part of the theory of self-determination, suggests that an environment supporting autonomy, competence, and relatedness helps facilitate individuals' perception of autonomy, competence, and relatedness, promoting overall psychological health (Ryan & Deci, 2000). Klaeijsen et al. (2018) state that perceptions of the teacher's work environment in fulfilling basic psychological needs have a stronger influence on teachers' intrinsic motivation. In this study, the satisfaction of basic psychological needs plays an optimal role in mediating the impact of work climate on teachers' motivation in rural areas, making the work climate more positive and enhancing teachers' ability to fulfill their teaching duties effectively (Utomo et al., 2019). Consequently, increased motivation among teachers can lead to improved performance (Ismawati et al., 2023).

The results support the second hypothesis, indicating a significant role of work climate in the intrinsic work motivation of PAUD teachers in rural areas. This finding aligns with Nisa' et al.'s (2020) research, which highlights the influence of academic supervision and organizational climate on teachers' work motivation. Creating a positive school environment through the involvement of all school components positively impacts completing school assignments and developing teachers' competencies, thus increasing their work motivation (Nisa' et al., 2020). Similar research by Prasetia et al. (2020) and Teresia et al. (2021) also demonstrates the influence of organizational climate on teachers' motivation at work.

According to Ladyong (2014), the organizational climate of the school significantly influences teachers' work motivation. Collegial leadership and school-community relations, two dimensions of school organizational climate, have a notable impact on teachers' motivation. School principals play a crucial role in promoting a positive work atmosphere that motivates teachers to teach effectively (Eyal & Roth, 2011). Teachers are highly motivated when they can establish interpersonal relationships with the school principal, colleagues, and students, fostering happiness and job satisfaction. Support from colleagues, such as mutual respect for competence and commitment to students, plays a determining role in teachers' motivation (Bukhari et al., 2021; Hoy et al., 2002). However, the results differ from the studies conducted by Gokce (2010) and Khan et al. (2019), which indicate that teacher work

experience does not affect work motivation, suggesting that age and individual expectations play a significant role (Stone et al., 2010).

The findings support the third hypothesis, revealing the positive impact of work climate on teachers' satisfaction of basic psychological needs. A supportive work climate not only influences teachers' intrinsic work motivation but also enhances their satisfaction of basic psychological needs. The support for basic psychological needs strongly affects individuals' behavior at school (Ryan & Deci, 2020). The teacher's work environment in schools is essential, as it influences their performance and the evaluation of their teaching tasks (Shaleh et al., 2019). The satisfaction of psychological needs felt by teachers influences their attitude in creating a harmonious and conducive atmosphere with colleagues, principals, staff, and students, thus promoting optimal education and teaching activities (Saondi & Suherman, 2015). This finding aligns with Tajudin et al. (2021) and Yusnita et al. (2021), who highlight the correlation between school work climate and teachers' personality, social dynamics, and culture. The school work environment can support and fulfill teachers' basic psychological needs. When principals enhance autonomy, teachers experience greater satisfaction and commitment, leading to increased motivation (Baard et al., 2004; Fierro-Suero et al., 2022). Additionally, transformational school principals positively impact the organizational climate for elementary school teachers (Werang & Agung, 2017).

The study confirms the fourth hypothesis, indicating that teachers' satisfaction of basic psychological needs influences their work motivation in early childhood education in rural areas. This finding is consistent with the self-determination theory, which suggests that individuals' well-being and motivation are influenced by the satisfaction of universal psychological needs (Deci & Ryan, 1985; Ryan & Deci, 2017). Previous studies have shown a correlation between basic psychological needs satisfaction and intrinsic motivation (Loopers et al., 2023; Pelikan et al., 2021). Loopers et al. (2023) suggest that competence and relatedness needs have the strongest correlation with intrinsic motivation among teachers, followed by autonomy and relatedness needs with students.

According to Collie et al. (2016), satisfaction of basic psychological needs has a significant impact on individuals' autonomous motivation, particularly in the teaching profession (Collie & Martin, 2015).

The results align with Klaeijsen et al.'s (2018) research, indicating a positive correlation between teachers' satisfaction of basic psychological needs and intrinsic work motivation. Satisfaction of perceived autonomy allows teachers to act according to their thoughts and ideas. Furthermore, satisfaction of competency needs allows teachers to feel successful in their actions, while satisfaction of the need for connection is experienced when they have meaningful relationships with colleagues and individuals in the school environment. Werang (2018) emphasizes the perseverance and success-oriented attitude of elementary school teachers in the Papua region. Gagné and Deci (2005) suggest that satisfying individuals' basic psychological needs forms the foundation for motivation and internalization, making it an intriguing concept for teachers. Reeve and Su (2014) also note that teachers exhibit a keen interest and strong motivation when their psychological needs for autonomy, competence, and relatedness are satisfied.

Conclusion

This study aims to examine the role of satisfying basic psychological needs in enhancing the work climate and intrinsic work motivation of early childhood education teachers in rural areas. The results demonstrate that the work climate significantly influences the satisfaction of basic psychological needs and intrinsic work motivation among teachers. A positive work atmosphere positively impacts teachers' motivation to work at school. The work environment plays a crucial role in supporting and facilitating the satisfaction of teachers' basic psychological needs. Additionally, the findings reveal that the satisfaction of basic psychological needs mediates the relationship between work climate and intrinsic work motivation in early childhood education teachers in rural areas. Higher satisfaction of needs corresponds to greater work motivation in rural areas. Optimizing the mediating role of basic psychological needs satisfaction can foster a more positive work climate for teachers, thereby enhancing their teaching tasks and work motivation.

While this research provides valuable insights into the mediating role of basic psychological needs satisfaction in the connection between work climate and intrinsic work motivation, certain limitations should be acknowledged. The study's participants were limited to early childhood education teachers in specific regions, namely Kediri, Tulungagung, and Malang. Therefore, future research should

consider a larger sample size, including elementary school teachers in rural areas throughout East Java, to allow for broader generalizations and a more comprehensive exploration of the correlations between variables. Moreover, future studies could also investigate other potential mediating variables to enhance understanding of factors influencing the intrinsic work motivation of teachers in early childhood education, such as self-efficacy, leadership, self-esteem, self-regulated learning, and perceived organizational support. This would contribute to enriching the research landscape on work motivation among early childhood education teachers.

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