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The Effects of Workload and Work Facilities on Kindergarten Teachers' Performance in Makassar City

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Abstract:

This study aims to examine the influence of workload and work facilities on the performance of kindergarten (TK) teachers in Makassar City, Indonesia. The study was motivated by the increasing administrative, pedagogical, and social demands placed on kindergarten teachers, as well as the unequal availability of work facilities across early childhood education institutions. In addition, this study seeks to extend the application of the Job Demands-Resources (JD-R) Theory within the context of early childhood education teachers in Indonesia. This study employed a quantitative research approach using a survey method. The study population consisted of kindergarten teachers in Makassar City, with a sample of 326 respondents selected through proportionate random sampling. Data were collected using a questionnaire that had met the required validity and reliability standards and were analyzed using multiple linear regression with the assistance of SPSS software. The results revealed that workload had a positive and significant effect on teacher performance ($\beta = 0.078$, $p = 0.009$), while work facilities also had a positive and significant effect on teacher performance ($\beta = 0.630$, $p < 0.001$). Simultaneously, workload and work facilities significantly influenced teacher performance ($F = 84.855$, $p < 0.001$). The resulting regression equation was $Y = 21.519 + 0.078X_1 + 0.630X_2$, with an R^2 value of 0.344, indicating that workload and work facilities jointly explained 34.4% of the variance in teacher performance, while the remaining 65.6% was attributable to other factors beyond the scope of this study.

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Introduction (مقدمة)

Early Childhood Education (ECE) serves as a fundamental foundation for human resource development because it represents a critical stage in shaping children's cognitive, social, emotional, language, and character development (Nutbrown, 2018). Investment in early childhood education has been demonstrated to generate long-term benefits, including improved educational attainment, increased productivity, and enhanced quality of life in later stages of development (Heckman, 2011). Therefore, improving the quality of ECE services has become an important strategic priority in supporting the achievement of the Sustainable Development Goals (SDGs), particularly SDG 4, which emphasizes inclusive, equitable, and quality education for all children (UNESCO, 2021). Within the implementation of ECE, kindergarten teachers play a central role as learning facilitators, educators, mentors, and observers of children's developmental progress (Mulyasa, 2017). Consequently, the quality of ECE services is strongly influenced by teachers' professional performance in carrying out their responsibilities.

Teacher performance is one of the critical factors determining the quality of the learning process and the achievement of educational objectives in early childhood education (Suryana, 2018). Teachers with strong professional performance are able to develop learning plans that correspond to children's developmental characteristics, create safe, comfortable, and enjoyable learning environments, conduct continuous developmental assessments, and establish effective communication with parents (Deci & Ryan, 2008; Suryana, 2018). Conversely, poor teacher performance may reduce the quality of educational services and hinder the achievement of optimal learning outcomes among young children (Barnett, 2008). Thus, improving teacher performance should be considered a priority in efforts to enhance the quality of early childhood education.

In Makassar City, the provision of kindergarten education has developed considerably in response to the growing demand for early childhood education services. According to Dapodik data from the Ministry of Primary and Secondary Education for the 2024/2025 academic year, Makassar City has 556 kindergarten institutions, consisting of 6 public and 550 private kindergartens, with 1,760 teachers and 20,793 students. At the aggregate level, the teacher-to-student ratio is approximately 1:12. Although this ratio may appear relatively adequate quantitatively, it does not necessarily reflect the actual workload experienced by teachers in individual institutions. In practice, substantial disparities in student distribution exist among kindergartens in Makassar City. In several highly demanded kindergartens, both public and private, the teacher-to-student ratio may reach 1:20 or higher within a single classroom, often without the support of co-teachers. Such conditions may result in classroom capacity overload and increase the demands placed on teachers in providing individualized attention and developmental stimulation.

In addition to classroom demands, kindergarten teachers are confronted with substantial administrative responsibilities. Teachers are required to prepare daily teaching modules or lesson plans integrated with the Merdeka Curriculum, upload formative and summative assessment documentation through digital platforms such as Platform Merdeka Mengajar (PMM), regularly update student and institutional information through Dapodik, and prepare detailed individual developmental reports. These responsibilities may extend teachers' working hours beyond their formal schedules, with evenings and weekends frequently being used to complete accumulated administrative tasks. Consequently, the workload experienced by kindergarten teachers is not merely determined by the number of students they teach but also by the complexity and volume of pedagogical and administrative responsibilities they must perform simultaneously.

The workload of kindergarten teachers is particularly complex because their responsibilities differ in important ways from those of teachers at the primary and secondary

education levels. Kindergarten teachers are not only expected to deliver instructional content but also to design play-based learning experiences that correspond to the developmental characteristics and individual needs of young children (Yulianti & Dewanti, 2024). They must continuously observe and assess children's development across multiple domains, including cognitive, language, social-emotional, physical-motor, religious and moral, and artistic development (Sari et al., 2023). Furthermore, teachers are responsible for organizing safe, attractive, and stimulating learning environments, maintaining intensive interaction with children throughout the learning process, and establishing continuous communication and partnerships with parents concerning children's developmental progress (Yulianti & Dewanti, 2024). These multiple responsibilities indicate that the workload of ECE teachers is multidimensional, involving not only quantitative demands but also substantial emotional, pedagogical, and professional engagement.

Apart from workload, the availability of adequate work facilities is another important factor that may directly influence teachers' effectiveness and performance. In ECE settings, work facilities should not be regarded merely as supplementary resources but as essential operational resources that enable teachers to perform their professional responsibilities effectively (Pratiwi et al., 2021). Given the distinctive characteristics of early childhood learning, appropriate facilities include varied and safe indoor and outdoor educational play equipment (Alat Permainan Edukatif/APE), which supports the implementation of play-based learning and children's motor stimulation. The availability of computers or laptops, projectors, and reliable internet access is also important for improving teachers' efficiency in preparing instructional materials, completing digital assessments, and delivering engaging audio-visual learning resources. In addition, printers, paper, standardized assessment instruments, and appropriate storage facilities for children's portfolios and developmental records can facilitate the preparation and documentation of learning assessments.

The lack of adequate facilities may require teachers to devote additional time, personal financial resources, and energy to preparing learning materials and completing administrative tasks independently. Such conditions may reduce the efficiency and effectiveness of teachers in performing their professional duties (Pratiwi et al., 2021). Therefore, the availability of appropriate work facilities is particularly important in kindergarten education, where learning activities require various forms of concrete materials, play equipment, visual resources, documentation, and continuous assessment.

The relationship between workload, work facilities, and teacher performance can be understood through the Job Demands-Resources (JD-R) Theory developed by Bakker and Demerouti (2017). The JD-R framework distinguishes between job demands, which refer to physical, psychological, social, or organizational aspects of work that require sustained effort, and job resources, which refer to resources that help employees achieve work goals, reduce job demands, or stimulate personal growth and development. From this perspective, workload does not necessarily produce negative outcomes in every situation. Work demands that remain within an individual's capacity may function as challenge demands that encourage motivation, engagement, and performance. However, when job demands exceed available resources, they may become hindrance demands that contribute to exhaustion, burnout, and declining performance. Accordingly, the effect of workload on teacher performance may depend partly on the availability of adequate job resources, including appropriate work facilities (Bakker & Demerouti, 2017).

Previous studies have indicated that workload and work facilities are associated with teacher performance. However, several research gaps remain. First, much of the existing research on teacher workload, work facilities, and performance has focused on primary and secondary education, while studies specifically examining kindergarten teachers remain

relatively limited. This gap is particularly relevant in Makassar City, where approximately 98.9% of kindergarten institutions are privately managed, with considerable variations in institutional resources, facility availability, and workload management across different foundations. Second, previous studies have commonly examined workload and work facilities independently or partially in relation to teacher performance. Research examining the simultaneous influence of both factors among kindergarten teachers remains limited, particularly when considering the distinctive characteristics of play-based learning, complex individual developmental assessment, and the high level of emotional labor required in ECE settings.

Furthermore, limited research has specifically employed the JD-R Theory to explain how job demands, such as excessive administrative responsibilities and high student-teacher ratios, and job resources, such as educational play equipment and digital technology facilities, may jointly influence the performance of kindergarten teachers. This limitation is particularly significant in an urban context such as Makassar City, where the rapid expansion of ECE services may not necessarily be accompanied by equal distribution of human and material resources. Examining workload and work facilities simultaneously may therefore provide a more comprehensive understanding of the organizational conditions that support or constrain kindergarten teachers' professional performance.

The present study addresses these gaps by examining the influence of workload and work facilities on the performance of kindergarten teachers in Makassar City. By analyzing both variables simultaneously and partially, this study seeks to provide empirical evidence concerning the extent to which job demands and job resources contribute to teacher performance in the context of early childhood education. The study also seeks to extend the application of the Job Demands-Resources Theory to the ECE context by highlighting the interaction between the demands associated with kindergarten teachers' professional responsibilities and the resources provided by their work environment. Therefore, the objective of this study is to analyze the partial and simultaneous effects of workload and work facilities on the performance of kindergarten teachers in Makassar City.



Method (منهج)

Identify Subsections

The Method section of this study is organized into several subsections to provide a clear and systematic description of the research procedures and to facilitate the understanding and replication of the study. The subsections include Research Design, Research Setting, Participants and Sampling, Research Variables and Measurement, Data Collection, Instrument Development and Validation, and Data Analysis. These subsections describe the research approach, study location and period, population and sampling procedures, research variables and their operational measurement, data collection procedures, instrument development and testing, and statistical procedures used to analyze the data.

This study employed a quantitative explanatory-associative approach using a survey method to examine the effects of workload and work facilities on kindergarten teacher performance in Makassar City, Indonesia. The research was designed as a non-experimental, cross-sectional study because the variables were observed as they naturally occurred without experimental manipulation or assignment of participants to treatment and control groups.

Participant (Subject) Characteristics

The participants in this study were kindergarten teachers who were actively teaching in

Makassar City, Indonesia, including teachers working in both public and private kindergarten institutions. The population consisted of 1,760 kindergarten teachers distributed across 15 districts in Makassar City.

Because it was not feasible to involve the entire population, a sample of 326 kindergarten teachers was selected. The sample size was determined using the Slovin formula with a 5% margin of error and a 95% confidence level. The calculation was as follows:

$$n = N / (1 + Ne^2)$$

where n represents the required sample size, N represents the total population, and e represents the margin of error. With a population of 1,760 teachers and a 5% margin of error, the calculation resulted in a sample of approximately 326 teachers.

To ensure that teachers from all districts were adequately represented, proportionate stratified random sampling was employed. The population was first divided into 15 strata based on the administrative districts of Makassar City. The number of teachers selected from each district was determined proportionally according to the size of the teacher population in that district. The proportional allocation was calculated using the following formula:

$$n_i = (N_i / N) \times n$$

where n_i represents the sample size allocated to district i , N_i represents the number of kindergarten teachers in district i , N represents the total population of 1,760 teachers, and n represents the total sample of 326 teachers.

After determining the number of participants required from each district, simple random sampling was used to select individual teachers within each stratum. A sampling list of eligible kindergarten teachers was obtained for each district, and participants were selected randomly from the respective lists. This procedure ensured that each eligible teacher within a district had an equal probability of being selected while maintaining proportional representation across the 15 districts.

The final sample was distributed across all 15 districts of Makassar City, with the number of participants ranging from 2 teachers in Ujung Tanah to 54 teachers in Biringkanaya. The total sample consisted of 326 kindergarten teachers. The inclusion of teachers from both public and private kindergarten institutions was intended to provide broader representation of kindergarten teachers in Makassar City.

Research Design

This study employed a quantitative explanatory research design with an associative approach. The design was selected because the study aimed to examine the relationships and effects among the research variables rather than merely describe existing conditions. Specifically, the study investigated the effects of teacher workload (X_1) and work facilities (X_2) as independent variables on kindergarten teacher performance (Y) as the dependent variable.

The study used a survey approach for data collection. Data were obtained directly from the participants through a structured questionnaire containing items designed to measure workload, work facilities, and teacher performance. The survey design enabled the researcher to obtain standardized quantitative data from a relatively large number of participants and to statistically examine the relationships among the variables.

The study did not involve experimental manipulation or assignment of participants to experimental and control groups. Instead, the variables were observed through participants' responses regarding their workload, the work facilities available to them, and their professional performance. Therefore, the study represents a non-experimental, cross-sectional quantitative

survey design.

Research Variables and Measurement

The study consisted of three main variables: teacher workload (X_1), work facilities (X_2), and kindergarten teacher performance (Y). Each variable was operationalized into several measurable indicators based on relevant theoretical concepts and previous research.

Teacher workload (X_1) was measured through questionnaire items representing the amount, intensity, and demands of work experienced by kindergarten teachers in carrying out their professional duties. The indicators covered aspects such as the quantity of tasks, time demands, workload intensity, and the responsibilities associated with teaching and other professional activities.

Work facilities (X_2) were measured through questionnaire items assessing the availability, adequacy, condition, and accessibility of facilities that support teachers in performing their duties. The measurement covered facilities and resources relevant to teaching and learning activities, including classroom facilities, teaching equipment, learning resources, and other supporting facilities available in the kindergarten institution.

Kindergarten teacher performance (Y) was measured using questionnaire items reflecting teachers' performance in carrying out their professional responsibilities. The indicators included the quality and quantity of work, implementation of teaching responsibilities, discipline, responsibility, and the ability to complete assigned professional tasks effectively.

All variables were measured using a structured Likert-scale questionnaire. Respondents were asked to indicate the extent to which they agreed with each statement. The response categories ranged from strongly disagree to strongly agree. The use of a standardized response scale enabled the responses to be quantified and analyzed statistically.

Instrument Development and Validation

The research instrument was developed based on the operational definitions and indicators of each research variable. The questionnaire items were formulated to represent the theoretical dimensions of workload, work facilities, and teacher performance. Before being administered to the main sample, the instrument was reviewed to ensure that the statements were relevant, clear, and understandable to the target participants.

Instrument validity was assessed to determine whether each questionnaire item appropriately measured the intended construct. The validity testing was conducted using item-total correlation. Each item score was correlated with the total score of its respective variable. An item was considered valid when its correlation coefficient met the predetermined statistical criterion and its significance value was below the 0.05 level. Items that did not meet the validity criterion were considered for revision or removal before the instrument was used in the main study.

In addition to item validity, the instrument was assessed for reliability to determine the internal consistency of the items within each variable. Reliability testing was conducted using Cronbach's alpha coefficient. A Cronbach's alpha value of 0.70 or higher was considered to indicate acceptable internal consistency. The reliability test was performed separately for the workload, work facilities, and teacher performance scales. The results of the validity and reliability testing were used to confirm that the questionnaire was sufficiently valid and reliable for collecting data from the main sample.

The validity and reliability testing was conducted before the main data analysis. The results, including the number of valid items, item correlation coefficients, and Cronbach's alpha values for each variable, are reported in the Instrument Validation subsection/table to provide

transparent evidence of the quality of the measurement instruments.

Data Collection

Data were collected directly from the selected kindergarten teachers using the validated structured questionnaire. Prior to data collection, the researcher identified eligible participants according to the predetermined sampling criteria and distributed the questionnaire to the selected teachers. Participants were informed about the purpose of the study and the use of the data for research purposes. Participation was voluntary, and respondents were asked to provide responses based on their actual experiences and conditions.

The completed questionnaires were collected and checked for completeness before being entered into the dataset. Only questionnaires containing sufficiently complete responses were included in the subsequent statistical analysis.

Data Analysis

The collected data were analyzed quantitatively using descriptive and inferential statistical procedures. Descriptive analysis was used to summarize the characteristics of the respondents and the distribution of responses for each research variable.

Before conducting the main regression analysis, the data were examined to ensure that the assumptions required for multiple linear regression were adequately met. The analysis included appropriate classical assumption tests, such as normality, multicollinearity, and heteroscedasticity testing.

Multiple linear regression analysis was subsequently employed to determine the direction and magnitude of the effects of workload (X_1) and work facilities (X_2) on kindergarten teacher performance (Y). The regression model was formulated as:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + e$$

where Y represents kindergarten teacher performance, a represents the constant, β_1 and β_2 represent the regression coefficients for workload and work facilities, respectively, X_1 represents workload, X_2 represents work facilities, and e represents the error term.

Partial effects were examined using the t-test, while the simultaneous effect of workload and work facilities on teacher performance was examined using the F-test. The coefficient of determination (R^2) was also calculated to determine the proportion of variance in teacher performance that could be explained jointly by workload and work facilities. Statistical significance was evaluated at the 5% significance level ($\alpha = 0.05$).

Result (نتائج)

Respondent Characteristics

A total of 326 kindergarten teachers in Makassar City participated in the study. The questionnaire was distributed through the IGTKI Makassar City WhatsApp Group, and respondents were selected using proportionate stratified random sampling based on the distribution of kindergarten teachers across 15 districts. The data collection process was conducted over approximately two months.

The respondents were predominantly 25–35 years old (72.1%), held a bachelor's degree in Early Childhood Education (59.2%), and had 1–5 years of teaching experience (72.1%). In addition, the majority of respondents worked in private kindergartens (97.5%).

Table 1. Characteristics of Respondents

Characteristic	Category	n	%
Age	< 25 years	3	0.9
	25–35 years	235	72.1
	36–45 years	76	23.3
	> 45 years	12	3.7
Educational level	SMA/SMK	1	0.3
	Diploma (D3)	6	1.8
	S1 Early Childhood Education	193	59.2
	S1 Non-Early Childhood Education	102	31.3
	S2 Early Childhood Education	23	7.1
	S2 Non-Early Childhood Education	1	0.3
Teaching experience	< 1 year	2	0.6
	1–5 years	235	72.1
	6–10 years	81	24.8
	> 10 years	8	2.5
School status	Private	318	97.5
	Public	8	2.5
Total		326	100

The respondent profile indicates that the sample was largely composed of relatively young teachers working in private kindergarten institutions. This characteristic is important when interpreting the subsequent findings because the sample predominantly represents teachers in the early to middle stages of their professional careers.

Descriptive Results

The descriptive analysis showed that all three research variables were classified as very high. Teacher performance obtained a mean score of 4.45 per item, workload obtained the highest mean score of 4.89 per item, and work facilities obtained a mean score of 4.54 per item.

Table 2. Descriptive Statistics of the Research Variables

Variable	Total Mean	No. of Items	Mean per Item	Category
Teacher Performance	62.30	14	4.45	Very High
Workload	87.96	18	4.89	Very High
Work Facilities	54.49	12	4.54	Very High

The descriptive findings reveal an interesting pattern: although teachers reported a very high workload, their perceived performance also remained very high. At the same time, work facilities received a very positive assessment. This pattern provides an important empirical basis for interpreting workload as a potential challenge demand, rather than necessarily as a hindrance demand, within the context of this study.

Regression Assumption Test

The Kolmogorov–Smirnov test produced significance values below 0.05 for teacher performance, workload, and work facilities. However, because the sample consisted of 326

respondents, normality was also assessed visually using the standardized residual histogram and Normal P-P Plot. Both visual assessments indicated that the residuals approximately followed a normal distribution.

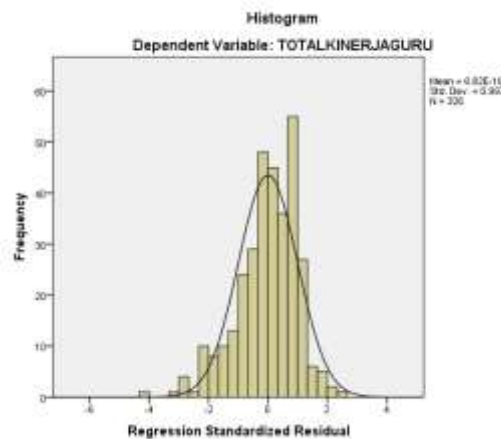


Figure 1. Histogram of Standardized Regression Residuals

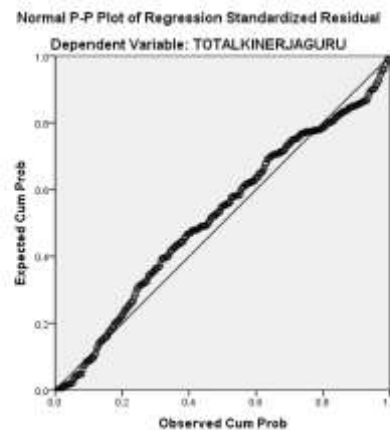


Figure 2. Normal P-P Plot of Standardized Regression Residuals

The linearity test showed that the relationship between work facilities and teacher performance satisfied the linearity assumption, with a Linearity significance value of 0.000 and a Deviation from Linearity value of 0.463. For workload and teacher performance, the Linearity value was 0.000, while the Deviation from Linearity value was also 0.000, indicating a significant deviation from a strictly linear relationship. Nevertheless, the regression analysis was retained because workload demonstrated a statistically significant effect on teacher performance.

The multicollinearity test showed a Tolerance value of 0.844 and a VIF value of 1.184 for both independent variables, indicating no multicollinearity problem. The scatterplot also showed randomly distributed residuals without a systematic pattern, indicating no apparent heteroscedasticity.

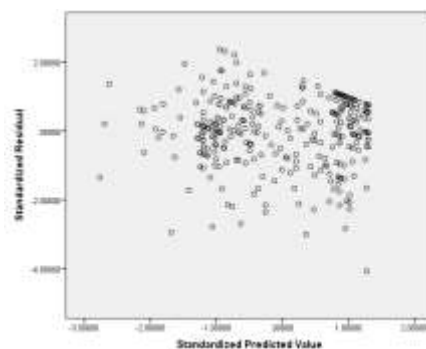


Figure 3. Scatterplot of Standardized Regression Residuals

Multiple Linear Regression Results

Multiple linear regression analysis demonstrated that both workload and work facilities had positive regression coefficients. The regression equation was:

$$Y = 21.519 + 0.078X_1 + 0.630X_2$$

where Y represents teacher performance, X_1 represents workload, and X_2 represents work facilities.

Table 3. Descriptive Statistics of the Research Variables

Variable	B	Standard Error
Constant	21.519	3.112
Workload (X_1)	0.078	0.030
Work Facilities (X_2)	0.630	0.059

The coefficient for workload was 0.078, indicating a positive association between workload and teacher performance. The coefficient for work facilities was substantially larger, at 0.630, indicating a stronger contribution of work facilities to teacher performance.

Coefficient of Determination

The regression model produced an R value of 0.587, an R^2 value of 0.344, and an Adjusted R^2 value of 0.340. Thus, workload and work facilities jointly explained 34.4% of the variance in kindergarten teacher performance, while the remaining 65.6% was attributable to other factors not included in the model.

Table 4. Coefficient of Determination

Model	R	R^2	Adjusted R^2
Workload and Work Facilities	0.587	0.344	0.340

The result indicates that workload and work facilities are meaningful predictors of teacher performance, although they do not account for all of its variation. Other possible contributors identified in the study include school leadership, work motivation, job satisfaction, organizational culture, professional competence, teacher welfare, school climate, organizational commitment, and teaching experience.

Partial Effects of Workload and Work Facilities

The t-test showed that both independent variables had statistically significant effects on teacher performance. Workload had a coefficient of $B = 0.078$, $t = 2.613$, and $p = 0.009$, whereas work facilities had a coefficient of $B = 0.630$, $t = 10.697$, and $p < 0.001$.

Table 5. Partial Effects of Workload and Work Facilities

Variable	B	SE	t	p
Constant	21.519	3.112	6.916	<0.001
Workload (X_1)	0.078	0.030	2.613	0.009
Work Facilities (X_2)	0.630	0.059	10.697	<0.001

Both hypotheses concerning the partial effects were therefore supported. Importantly, work facilities had a substantially stronger standardized effect ($\beta = 0.524$) than workload ($\beta = 0.128$), indicating that work facilities were the more dominant predictor of teacher performance in this sample.

Simultaneous Effect of Workload and Work Facilities

The F-test demonstrated that workload and work facilities jointly had a statistically significant effect on kindergarten teacher performance. The regression model produced an F value of 84.855 with $p < 0.001$.

Table 6. Simultaneous Effect of Workload and Work Facilities

Model	Sum of Squares	df	Mean Square	F
Regression	4,175.349	2	2,087.674	84.855
Residual	7,946.740	323	24.603	—
Total	12,122.089	325	—	—

The significant F-test indicates that workload and work facilities jointly contribute to explaining differences in kindergarten teacher performance. Together, the two variables accounted for 34.4% of the observed variation in performance.



Discussion (مناقشة)

Workload and Teacher Performance: A JD-R Perspective

The positive effect of workload on teacher performance is an important finding that requires interpretation beyond the conventional assumption that a higher workload necessarily produces negative outcomes. The findings suggest that, within the context of kindergarten education in Makassar City, workload may operate as a challenge demand rather than exclusively as a hindrance demand. From the perspective of the Job Demands–Resources (JD-R) Theory proposed by Bakker and Demerouti (2017), job demands refer to physical, psychological, social, or organizational aspects of work that require sustained effort. However, not all job demands have the same consequences. Some demands may be experienced as challenges that encourage employees to invest greater effort, develop their competencies, and achieve work-related goals, whereas other demands may function as hindrances that unnecessarily obstruct goal attainment and increase strain.

The positive regression coefficient for workload in this study therefore indicates that an increase in workload was associated with an increase in teacher performance, rather than a decline. This pattern can be interpreted through the motivational process of the JD-R framework. When work demands are perceived as meaningful, achievable, and relevant to professional responsibilities, they can stimulate teachers to mobilize greater effort, attention, and engagement in completing their tasks. In the kindergarten

context, a higher volume or variety of professional responsibilities may require teachers to plan learning activities more carefully, organize classroom activities, monitor children's development continuously, prepare assessment documentation, and communicate with parents. These demands can encourage teachers to become more organized, responsive, and actively engaged in fulfilling their professional roles.

Importantly, the positive effect should not be interpreted as evidence that an unlimited increase in workload will continuously improve teacher performance. Rather, the finding suggests that the workload experienced by the respondents may have remained within a range that was perceived as manageable and sufficiently supported. In JD-R Theory, the consequences of job demands depend on the conditions under which those demands are experienced. Challenge demands may contribute to motivation and performance when employees possess sufficient personal and organizational resources to meet them. Once demands exceed an individual's capacity or available resources, however, the same demands may contribute to exhaustion, stress, and declining performance. Thus, the positive relationship identified in this study should be understood as context-dependent rather than universally applicable.

This interpretation is particularly relevant to the characteristics of the respondents. Most participants were 25–35 years old and had 1–5 years of teaching experience. Although these characteristics cannot by themselves establish that teachers were more capable of handling workload, they may indicate that many respondents were still actively developing their professional routines and adapting to the demands of kindergarten teaching. Their workload may therefore have provided opportunities to practice and strengthen professional competencies. Repeated involvement in lesson planning, classroom management, developmental assessment, reporting, and parent communication may help teachers become more familiar with their responsibilities and improve their ability to organize and execute their work effectively.

The nature of kindergarten teaching further helps explain why workload may have been positively related to performance. Early childhood teachers are expected to manage multiple interconnected activities rather than perform a single narrowly defined instructional task. They may be required to design play-based learning experiences, prepare learning media, observe children's developmental progress, document assessment results, communicate with parents, and participate in administrative activities. When these responsibilities are appropriately distributed and accompanied by adequate support, greater task involvement may provide teachers with more opportunities to apply their professional knowledge and skills. Consequently, workload may function not merely as an additional burden but also as a stimulus for professional activation and task engagement.

The positive finding also needs to be considered in relation to the job resources available to the teachers. The present study found that work facilities made a stronger contribution to teacher performance than workload. This pattern provides an important explanation for why workload may have had a positive rather than negative association with performance. According to JD-R Theory, job resources help employees achieve work goals, reduce the physical and psychological costs associated with job demands, and stimulate motivation. In this study, adequate work facilities may have enabled teachers to respond more effectively to their workload. For example, appropriate

classrooms, educational play equipment (APE), learning media, and other teaching resources can reduce the additional effort required to compensate for inadequate working conditions. Consequently, teachers may have been able to convert higher task demands into productive work effort rather than experiencing those demands primarily as strain.

This relationship illustrates an important principle of the JD-R framework: job demands and job resources should not be interpreted independently. The effect of workload depends partly on the resources available to employees. A workload that is manageable in a well-equipped kindergarten may become burdensome in an institution with inadequate facilities. Conversely, sufficient facilities may allow teachers to complete multiple responsibilities more efficiently and maintain their performance despite substantial work demands. Therefore, the positive relationship between workload and performance in this study may reflect a condition in which teachers' demands were accompanied by sufficient organizational resources.

The finding differs from the conclusions of Skaalvik (2021), Toropova et al. (2021), and Harmsen et al. (2022), which generally associate excessive workload or unfavorable working conditions with negative outcomes, including stress, burnout, or reduced performance. This difference does not necessarily contradict the JD-R framework. Instead, it demonstrates its contextual nature. The JD-R model recognizes that the same job demand can produce different outcomes depending on whether it is experienced as a challenge or a hindrance and whether sufficient resources are available. Thus, the present finding may represent a challenge-demand condition, whereas the negative relationships reported in previous studies may reflect situations in which workload becomes excessive, obstructive, or insufficiently supported.

Accordingly, the managerial implication of this finding is not that kindergarten institutions should increase teachers' workload to improve performance. Such an interpretation would be inconsistent with the JD-R framework and could create risks if demands eventually exceed teachers' available resources. Instead, the finding suggests that workload should be designed, distributed, and monitored at a manageable level while being accompanied by adequate job resources. School leaders should ensure that teachers have sufficient time, facilities, learning resources, administrative support, and opportunities for professional development to deal with their responsibilities effectively. Under these conditions, professional demands may function as constructive challenges that stimulate engagement and performance rather than as sources of excessive strain.

Overall, the positive effect of workload identified in this study can therefore be interpreted as evidence that work demands may contribute to teacher performance when they are meaningful, manageable, and adequately supported by job resources. This interpretation strengthens the application of JD-R Theory to the kindergarten education context by showing that workload should not be conceptualized solely in terms of quantity or burden. Its effect is determined by how the demands interact with teachers' capacities, organizational conditions, and available resources. In the context of Makassar City, the findings suggest that maintaining an appropriate balance between job demands and job resources is more important than simply reducing workload.

The Joint Role of Workload and Work Facilities

The simultaneous effect of workload and work facilities provides further support for interpreting teacher performance through the relationship between job demands and job resources. Kindergarten teachers face multiple professional demands, including play-based lesson planning, continuous developmental assessment, documentation, communication with parents, classroom management, and administrative responsibilities. These activities require sustained physical, cognitive, and emotional effort. However, the consequences of these demands are influenced by the availability of resources that enable teachers to meet their responsibilities.

From the JD-R perspective, workload represents a set of job demands, whereas work facilities represent organizational job resources. The significant simultaneous contribution of both variables indicates that teacher performance is associated with the presence of both demands and resources within the work environment. Workload may provide the demands that activate teachers' efforts and professional engagement, while work facilities provide the conditions that allow those efforts to be translated into effective performance.

The stronger contribution of work facilities is particularly meaningful in interpreting the positive workload finding. It suggests that the availability of resources may be more influential than workload itself in determining whether teachers can perform their duties effectively. Adequate facilities can reduce unnecessary effort, facilitate task completion, and allow teachers to focus their energy on pedagogical activities. Therefore, the findings are consistent with the JD-R proposition that job resources can support employees in managing job demands and can contribute directly to motivation and performance.

Taken together, the findings suggest that teacher performance should be understood as the outcome of a dynamic balance between demands and resources. Workload may stimulate effort when it represents meaningful and manageable challenges, but adequate work facilities are necessary to ensure that this effort can be sustained and translated into effective professional performance. This interpretation provides a more nuanced explanation of the positive workload coefficient and demonstrates the relevance of the JD-R framework to kindergarten teachers in Makassar City.

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