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The quality of Indonesian teachers in the digital era: A meta-analysis

Eko Wahyunanto Prihono[1*]; Heri Retnawati[2]; Fitria Lapele[1]; Wisnu Budi Waluyo[3]
[1]Institut Agama Islam Negeri Ambon, Indonesia
[2]Universitas Negeri Yogyakarta, Indonesia
[3]Asian Institute of Technology, Thailand
[*]Corresponding Author. E-mail: ekoprihono@iainambon.ac.id

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ABSTRACT

The objective of the study is to determine the influence of determinant factors on teacher quality in Indonesia in the digital era in kindergarten, elementary, junior high, and high school units. It was a quantitative research with a correlation meta-analysis approach. The data was secondary data collected from various research results in Indonesia on the scholar.google.com page. The results of the study were published from 2012 to 2022. Data analysis used JASP software to estimate aggregates, draw plot Forrest, and publication bias. The aggregates were estimated through correlation scores with fixed effect models. The results showed that the funnel plot 104 study had a sample size that varied with the asymmetric distribution. Therefore, the results of the study were free from potential publication bias. It was reinforced by the forest plot display using the Trim and Fill method as well as the summary effect display results. Thus, the level of information validity based on the fixed-effect model of factors that affect the quality of teachers in the digital era in Indonesia was valid.

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INTRODUCTION

The accreditation instrument for Indonesian education units since 2020 has been developed in line with the 21st century development by emphasizing four assessment components: graduate's quality, learning process, teacher's quality, and school/*madrasah* management, hereinafter referred to as IASP-2020. In IASP-2020, teacher quality is the only assessment component with categories as core and specific performance items, since teachers are one of the determinants of educational units' success through their performance at the institutional and experiential levels (Mei Kin et al., 2018). The teacher quality assessment results in the educational units' accreditation are hoped to make an impetus to improve their performance in providing services to students to improve schools/*madrasahs* quality (Coman et al., 2020). Teachers who can manage the class well can identify students' talents and creativity (Bicer et al., 2021).

However, some teachers are not ready to carry out an active, creative, and innovative learning process by utilizing communication and information technology (ICT). It is partly due to the teachers' qualifications that have not passed the required educational quality standards (Du Plessis & Mestry, 2019; Gudmundsdottir & Hatlevik, 2018), there are still numerous teachers who are reluctant to develop themselves and improve knowledge and competence in teaching (Cremin & Oliver, 2017). It has an impact on the quality of the school. This factor is one of the tangible manifestations that causes teachers' low quality in Indonesia.

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From 2012 to 2022, there were at least 180 studies published in various journals related to the quality of teachers in Indonesia from various educational units (kindergarten, elementary school, junior high school, and senior high school). However, the results of the study are still limited to certain levels of educational units and cannot be generalized as a national study. Besides, those studies are still limited to a relatively short period of time. To get a detailed picture of what factors affect the quality of teachers nationally, it is necessary to conduct a study using the results of previous studies based on existing evidence (Khadijah et al., 2021).

This study aimed to describe the factors that can affect the quality of teachers in the digital era in Indonesia. This study comes from various studies from 2012 to 2022 using the meta-analysis method. A meta-analysis study was conducted to review research conducted by previous researchers in order to obtain accurate information (Xiang et al., 2021). It is hoped that the results of this meta-analysis research can be used as an overview of the influence of teacher quality in improving the quality of graduates and the learning process and management of schools/*madrasahs*, so that it can be used as a basis for policy making to improve the quality of education units in each region.

RESEARCH METHOD

This study was quantitative research through meta-analysis to summarize previous research and conclude it thoroughly related to the influence of teacher quality in Indonesia. In the first step, the author looked for a list of key journal references for the study of the correlation of factors affecting the quality of teachers in the digital era. The population in this study was in the form of all research results related to the quality of teachers in Indonesia, both in Indonesian and English with subject areas: teacher performance; the quality of teachers, teachers in Indonesia, and teachers of the digital era. The type of document used is in the form of articles, theses, and dissertations.

Inclusion and Exclusion Criteria

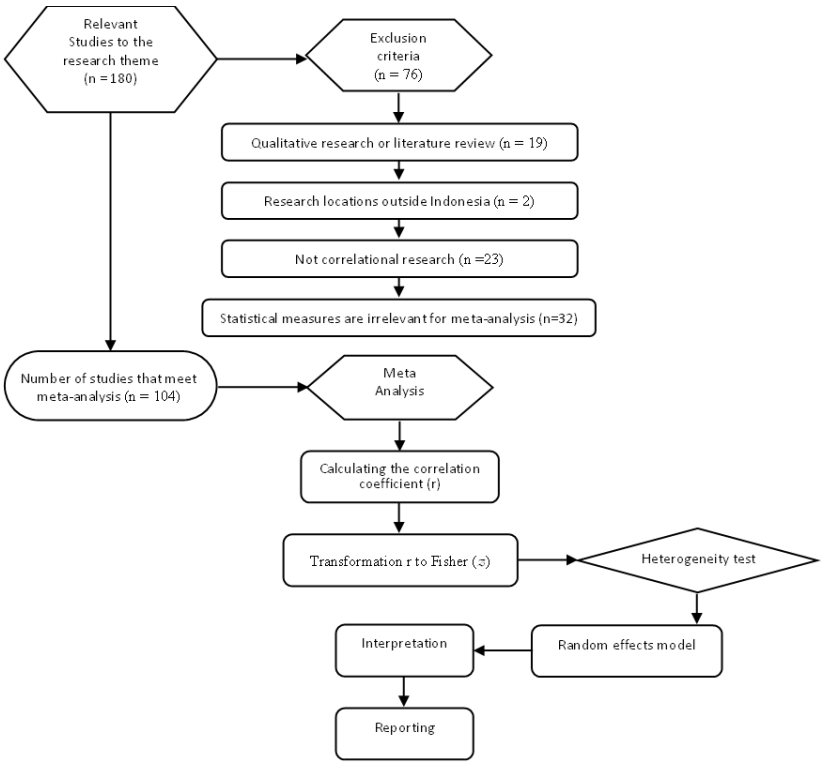

Figure 1. Meta-analysis Diagram

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Data collection techniques are carried out based on inclusion and exclusion criteria. The inclusion criteria in this study include: (1) articles published by Google Scholar, (2) articles published between 2012 and 2022, (3) the results of the study discuss the influence of teacher quality on all school/*madrasah's* grades, (4) research locations in Indonesia, (5) articles containing the value of correlation coefficients (r) or statistical t, and (6) there is a sample (N) of the study. The exclusion criteria for this study are: (1) qualitative research or literature review, (2) research locations outside the country of Indonesia, (3) not correlational research, (4) do not include relevant statistical measures to be analyzed using meta-analysis. Details of the meta-analysis flow are presented in Figure 1.

Effect Size Calculation

For studies that report a correlation between two continuous variables, the correlation coefficient between the two variables is *the effect size* (*r*). If in a study the reported values are the values of *F* and *t*, then both values can be transformed to *r* (Rosenthal, 1991; Xie et al., 2019) through Formula (1). Although *r* is a *size effect* in most correlation meta-analysis studies, it cannot necessarily be used to calculate the summary effect. In this case r must first be transformed to the Fisher transformation (*z*). To convert the value of r to z using the equation as shown in Formula (2), z or Y_i is a transformed effect size (ES). The standard error (SE) of z is the root of the variance z, so the equation SE_z is shown in Formula (3).

$$r = \frac{t}{\sqrt{t^2+N-2}} \quad \text{(1)}$$

$$z = Y_i = 0{,}5 \text{ x } ln\frac{1+r}{1-r} \quad \text{(2)}$$

$$SE_z = SE_{Y_i} = \sqrt{V_Z} \quad \text{(3)}$$

Hypothesis Test

Hypothesis test used is a *fixed-effect* model. One of them was done by calculating the Weight (W) for each study using Formula (4). The author determined the lower limit (LL_M) and the upper limit (UL_M) of the confidence interval M using a significant degree of 95% ($\alpha = 0.05$) calculated using Formula (5) and Formula (6). Next, to test the zero hypothesis (H_0) whether θ is equal to 0, was determined through the value of Z with Formula (7). The authors conducted hypothesis tests used two-tailed tests, then p-values using Formula (8). Furthermore, the authors reported in the correlation coefficient (r) with Formula (9). If the r value ≤ 0.10, the correlation is in the "weak" category. If r=0.25, the correlation is in the "medium" category, while if r≥0.40, then the correlation is in the "strong" category (Retnawati et al., 2018).

$$W_i = \frac{1}{V_{Y_i}} \quad \text{(4)}$$

$$LL_M = M - 1.96 \times SE_M \quad \text{(5)}$$

$$LL_M = M + 1.96 \times SE_M \quad \text{(6)}$$

$$Z = \frac{M}{SE_M} \quad \text{(7)}$$

$$p = 2[\,1 - \Phi(|Z|)] \quad \text{(8)}$$

$$r = \frac{e^{2\,X\,M}-1}{e^{2\,X\,M}+1} \quad \text{(9)}$$

Heterogeneity Test

To draw the right conclusions, the authors estimate population variance from *the observed effect* or *"true" effet size* (τ^2). The τ^2 is calculated based on Formula (10). If $\tau^2>0$, then H_0 is re-

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jected, so the size effect of each study used in the meta-analysis is heterogeneous, in other words the size effect of each study is different. In addition to using parameters τ^2, heterogeneity tests are carried out using I^2 parameters that are the ratio of the actual heterogeneity to the total variance of the observed effect. The I^2 value can be calculated using Formula (11). A good I^2 value is close to 100% which shows that the size effect between studies is increasingly heterogeneous (Xiang et al., 2021).

$$\tau^2 = \frac{Q-df}{C} \quad \text{..... (10)}$$

$$I^2 = \frac{Q-df}{Q} \times 100\% \quad \text{..... (11)}$$

FINDINGS AND DISCUSSION

Findings

Effect Size and Homogeneity Test

Table 1. Characteristics of the 104 Studies Included in the Meta-Analysis

Author	Study	Factor	N	r
(Hendrawijaya et al., 2020)	Study 1	Work culture	250	0.166
	Study 2	Work discipline	250	0.163
	Study 3	LSH	250	0.124
	Study 4	Job satisfaction	250	0.159
	Study 5	PA	250	0.226
(Susanto, 2012)	Study 6	LSH	101	0.438
	Study 7	Teacher competence	101	0.387
	Study 8	Work motivation	101	0.348
(Hasanah & Kristiawan, 2019)	Study 9	ASH	18	0.594
(Ratnasari & Siregar, 2020)	Study 10	Work culture	60	0.518
	Study 11	LSH	60	0.211
	Study 12	Work motivation	60	0.455
(Mujiyanto et al., 2022)	Study 13	Work commitment	7	0.787
	Study 14	Work motivation	7	0.190
(Firdaus et al., 2022)	Study 15	Pedagogic competence	155	1.000
	Study 16	ASH	155	0.334
(Johanes et al., 2022)	Study 17	LSH	60	0.581
	Study 18	Digital literacy	60	0.581
(Ramlang et al., 2022)	Study 19	Work motivation	24	0.581
	Study 20	ASH	24	0.581
(Adelfina et al., 2022)	Study 21	Job satisfaction	57	0.162
	Study 22	Work motivation	57	0.149
	Study 23	Work experience	57	0.035
	Study 24	Education level	57	0.026
(Adisel, 2022)	Study 25	EI	161	0.309
	Study 26	II	161	0.317
	Study 27	Spiritual intelligence	161	0.226
(Starlinsky et al., 2022)	Study 28	LSH	77	0.448
	Study 29	ASH	77	0.413
(Maryati & Hanggara, 2022)	Study 30	LSH	233	0.217
	Study 31	Work environment	233	0.616
	Study 32	Work motivation	233	0.403
(Musfira et al., 2022)	Study 33	Competency training	48	0.628
(N. N. Dewi, 2022)	Study 34	Work motivation	53	0.373
	Study 35	ASH	53	0.132
(Jamali & Refi, 2022)	Study 36	Job satisfaction	120	0.518
	Study 37	Work motivation	120	0.119
(Maruf et al., 2022)	Study 38	LSH	77	0.510
	Study 39	School climate	77	0.473
	Study 40	Work motivation	77	0.717
(Ibrahim et al., 2022)	Study 41	Digital literacy	62	0.555
(Rivai, 2021)	Study 42	Work discipline	68	0.372

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Author	Study	Factor	N	r
	Study 43	Work motivation	68	0.405
	Study 44	ASH	68	0.367
(Pratiwi et al., 2021)	Study 45	Work culture	59	0.958
	Study 46	Individual factor	59	0.989
	Study 47	Psychological factors	59	0.949
(Novitasari & Asbari, 2021)	Study 48	Psychological factors	59	0.779
	Study 49	LSH	59	0.321
(Zuldesiah et al., 2021)	Study 50	LSH	79	0.372
	Study 51	ASH	79	0.445
(Tilawati, 2021)	Study 52	LSH	83	0.751
	Study 53	Work environment	83	0.714
	Study 54	Work motivation	83	0.634
(Ideswal et al., 2020)	Study 55	LSH	229	0.296
	Study 56	School climate	229	0.280
(Alim, 2017)	Study 57	Professional ethics	50	0.510
	Study 58	PC	50	0.457
(Widoyoko & Rinawat, 2012)	Study 59	Work motivation	130	0.309
(Setiyati, 2014)	Study 60	Work culture	753	0.210
	Study 61	LSH	753	0.288
	Study 62	Work motivation	753	0.235
(Ardiana, 2017)	Study 63	Work motivation	97	0.353
(Murwati, 2012)	Study 64	PA	80	0.683
(Handayani & Rasyid, 2015)	Study 65	Work culture	118	0.353
	Study 66	LSH	118	0.443
	Study 67	Work motivation	118	0.457
(Lubis, 2020)	Study 68	Work discipline	68	0.446
	Study 69	Work environment	68	0.368
	Study 70	Work motivation	68	0.492
(Putri & Imaniyati, 2017)	Study 71	PD	21	0.465
(T. A. Dewi, 2015)	Study 72	PC	82	0.438
	Study 73	Work motivation	82	0.378
(Mangkunegara & Puspitasari, 2015)	Study 74	Psychological factors	196	-0.094
	Study 75	EI	196	0.712
(Alhusaini et al., 2020)	Study 76	Work discipline	101	0.747
	Study 77	Work motivation	101	0.670
	Study 78	Work motivation	101	0.573
(Wardana, 2013)	Study 79	Work motivation	110	0.636
(Harefa, 2020)	Study 80	Work motivation	40	0.370
	Study 81	Self-confident	40	0.364
(Gabriella & Tannady, 2019)	Study 82	Work discipline	22	0.575
	Study 83	Work motivation	22	0.560
(Riyadi & Mulyapradana, 2017)	Study 84	Work motivation	97	0.270
(Gusman, 2014)	Study 85	LSH	78	0.250
(Sulfemi, 2020)	Study 86	LSH	45	0.437
	Study 87	Self-confident	45	0.331
(Koswara & Rasto, 2016)	Study 88	Teacher competence	88	0.365
	Study 89	PA	88	0.572
(Priyono et al., 2018)	Study 90	LSH	40	0.328
	Study 91	Work environment	40	0.366
	Study 92	Work motivation	40	0.455
(Purwoko, 2018)	Study 93	Work culture	242	0.497
	Study 94	Work discipline	242	0.465
	Study 95	LSH	242	0.465
	Study 96	Work commitment	242	0.397
(Septiana et al., 2013)	Study 97	LSH	95	0.248
	Study 98	Work motivation	95	0.323
(Firmawati & Usman, 2017)	Study 99	LSH	114	0.460
	Study 100	Work motivation	114	0.572
(Ismail, 2017)	Study 101	Work commitment	221	0.121
(Zubaidah et al., 2021)	Study 102	LSH	340	0.121
	Study 103	Work motivation	340	0.158
	Study 104	Teacher competence	340	0.107

Note: ASH: Academic Supervision of Headmaster; EI: Emotional Intelligence; II: Intellectual Intelligence; LSH: Leadership Style of Headmaster; PA: Performance Allowances; PC: Professional Competence; PD: Professional Development

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After filtering the literature, the authors used 104 studies to calculate *effect sizes*. All respondents were 13,384 as samples. The sample size of the kindergarten unit was 274 respondents, the elementary school unit was 3,726 respondents, the junior high school unit was 1,923 respondents and the high school unit was 7,461 respondents. The results of the study on the quality of teachers in Indonesia were published between 2012 and 2022. Based on the sample size and correlation coefficient, authors can produce effect size and summary effects as presented in Table 1 and Figure 2.

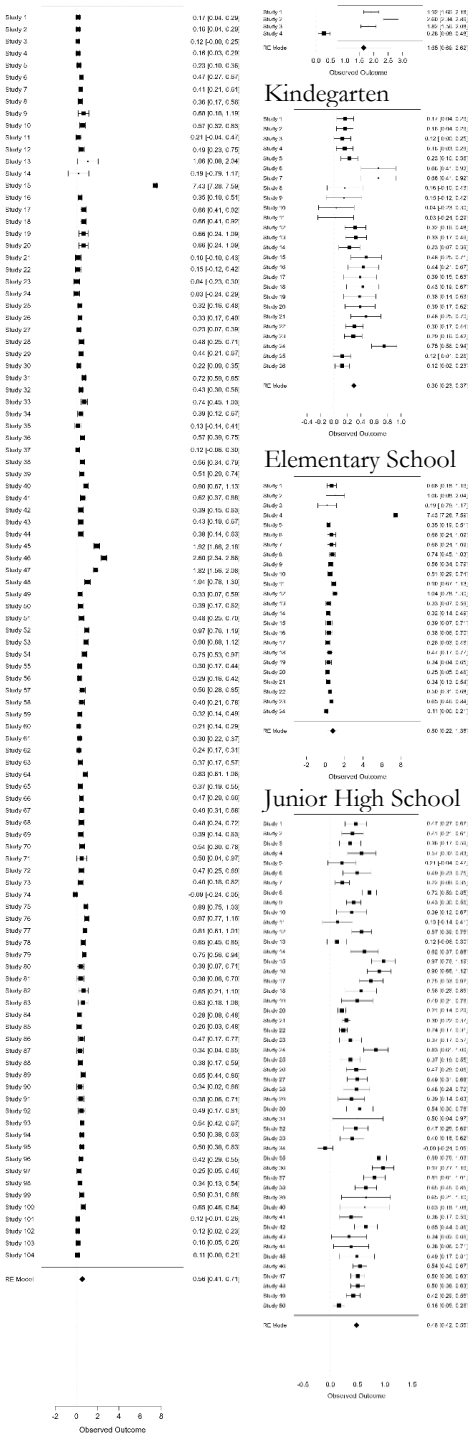

Figure 2. Forest plot teacher quality in Indonesia

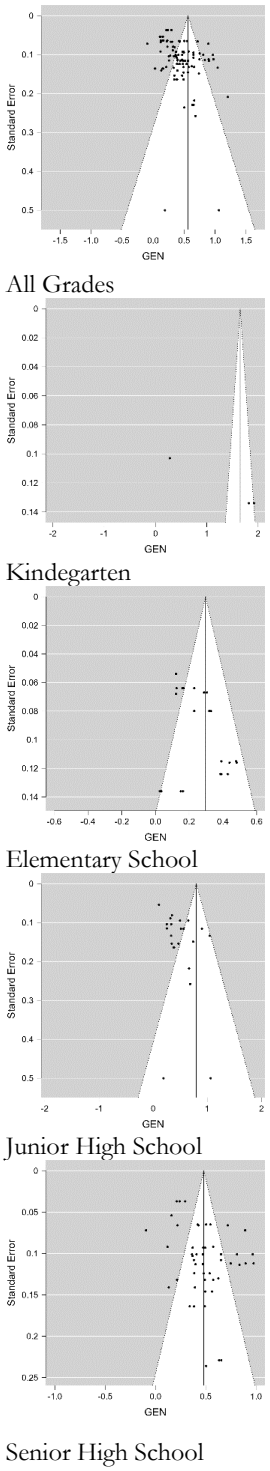

Figure 3. Funnel teacher quality in Indonesia

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Table 2. Homogeneity Calculation Test dan Heterogeneity Estimates

Educational Units	k	Q	r	SE	CI 95%		Z	p	Heterogeneity Estimates	
					LL	UL			τ^2	I^2 (%)
All Grades	104	8626.870	0.436	0.077	0.422	0.450	7.249	< .001	0.599	98.668
Kindergarten	4	223.280	0.897	0.492	0.870	0.918	3.357	< .001	0.953	98.384
Elementary School	26	90.290	0.252	0.041	0.221	0.282	8.361	< .001	0.023	76.209
Junior High School	24	7010.740	0.755	0.297	0.735	0.774	2.693	0.007	2.082	99.362
Senior High Scool	50	369.172	0.385	0.033	0.366	0.405	14.389	< .001	0.044	86.045

Based on Table 1, 25 factors were obtained from 104 studies collected and known r values, some of them were converted from F and t values to obtain r values. The results of the effect size calculation obtained an average weighted effect of 0.564 and a standard error of 0.077. For the average confidence interval (M), the weighting effect has a significant level of 95% located in the range of 0.41 to 0.71, while the results of the homogeneity test calculation presented in Table 2 show that there were factors that affect the quality of teachers in all units and each educational unit. Graphically, the results of the *summary effect* calculation of the influence of teacher quality in Indonesia as a whole and each education unit can be seen in *the forest plot* in Figure 2.

Based on Table 2, it shows that there was a significant correlation between determinants and the quality of teachers in Indonesia as a whole and each education unit in terms of the comparison of p-value with α with the p-value criterion <α (0.05). Furthermore, the authors conducted a heterogeneity test to show the suitability of the model with the data. The results of the heterogeneity test showed that the size effect of each study used in the meta-analysis was heterogeneous. This is in terms of the value of $\tau^2>0$ in all educational units and each educational unit. In addition to being reviewed from τ^2 heterogeneity tests carried out using the I^2 parameter. The overall I^2 and in each unit is >80% and close to 100%. This shows that the size effect between studies was increasingly heterogeneous. The heterogeneity test results are shown in Table 2.

Furthermore, the calculation of p-value and z value in all educational units and each education unit was carried out to determine the acceptance or rejection of the null hypothesis. Based on the calculation results obtained z value of 53.46 with p-value of <α (p<0.05) for all educational units, z value of 23.55 with p-value of <α (p<0.05) for kindergarten education units, z value of 15.53 with p-value of <α (p<0.05) for elementary education units, z value of 42.37 with p-value of <α (p<0.05) for junior high school education units, and z values of 34.74 with p-value of <α (p<0.05) for high school education units. The calculation of p-value used the help of Microsoft Excel with the formula =2*(1-NORMSDIST*(z value)). The calculation results obtained p-value <α (p<0.05) for all and each educational unit. Thus, the hypothesis was accepted and H_0 was rejected at a significant level of 95%, both one-sided and two-sided tests. Therefore, it can be concluded that all factors were significantly correlated with the quality of teachers in the digital era in Indonesia.

In order to determine whether or not the relationship between factors is strong or not to teacher quality, researchers converted the average effect size (M) to the correlation coefficient (r). The calculation results for all education units obtained an r value of 0.44 with a confidence interval of 0.42–0.45 included in the strong category, for kindergarten education units r value of 0.90 was obtained with a trust interval of 0.87–0.92 included in the very strong category, for elementary education units r value of 0.25 was obtained with a trust interval of 0.22–0.28 included in the medium category, for junior high school education units, r value of 0.76 was obtained with a trust interval of 0.73–0.77 included in the strong category, and for high school education units r value of 0.39 was obtained with a trust interval of 0.37–0.40 included in the medium category.

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Publication Bias

Efforts to obtain missing (unpublished) research information and evaluation of research conclusions were carried out through the detection of bias against 104 studies. The authors used Egger's test, fail-safe test and funnel plot (Egger et al., 1997; Rosenthal, 1991) to test whether the results of the meta-analysis carried out included publication bias or publication bias. Egger's decision-making test with criteria if the p-value <α (0.05) of the study included publication bias, while p-value ≥α (0.05) did not include publication bias. As for decision making using a fail-safe test, if the Fail-safe Nvalue>5k+10 then it does not include publication bias. The results of Egger's test and fail-safe test as a whole and each educational unit are presented in Table 3, while the funnel plot is presented in Figure 3.

Table 3. Results of the Detection of Research Bias Publications

Educational Units	k	Egger's test		Fail-safe N
		Z	p	
All Grades	105	0.481	0.630	113752.000
Kindergarten	4	3.821	< .001	921.000
Elementary School	26	3.616	0.021	2512.000
Junior High School	24	−0.487	0.626	11308.000
Senior High Scool	50	1.542	0.123	22506.000

The results of Egger's test in Table 3 shows that the magnitude of the correlation coefficient in all units was 0.481 with p-value (0.630) >α (0.05). Thus, there was no bias publication; the kindergarten unit was 3.821 with p-value (< .001) <α (0.05), means there was a bias publication; the Elementary school unit of 3.616 with p-value (0.021) >α (0.05) means there was no biased publication; the junior high school unit was -0.487 with p-value (0.626) >α (0.05) means that there was no bias publication; and the Senior High School unit of 1.542 with p-value (0.123) >α (0.05) means that there was no bias publication. Although in the kindergarten unit the magnitude of the correlation coefficient was 3.821 with p-value (<.001) <α (0.05), the results of the Fail-safe N calculation were 921>30 (5k+10), thus, it can be concluded that there was no bias publication. This was reinforced in Figure 3 which shows the plot funnel there was no difference in size effect between published and unpublished studies (Rosenthal, 1991). It can be concluded that there was a significant correlation of all factors collected from various studies on the quality of teachers in the digital era in Indonesia from each education unit. The results of bias detection were amplified based on Figures 2 and 3, where there were no circles in the funnel plot image of the fixed-effect model. It shows that no missing research was found, meaning that all factors have a relationship or influence on the quality of teachers in the digital era in Indonesia protected from potential publication bias.

Discussion

Meta-analysis is carried out to draw and analyze data statistically as an important part of a study based on evidence (Kartowagiran & Manaf, 2021; Khadijah et al., 2021). A total of 104 studies with 13,384 teacher respondents were used as samples in this study. The study of the quality of teachers in Indonesia through meta-analysis was the result of research published between 2012 and 2022.

Based on the studies conducted, it is known that the factors that affect the quality of teachers in the digital era in Indonesia, including: work motivation, leadership style of the principal, work discipline, work culture, academic supervision of the principal, work environment, performance allowances, psychological factors, teacher competence, school climate, emotional intelligence, work commitment, professional competence, digital literacy, self-confidence, professional ethics, individual factors, intellectual intelligence, spiritual intelligence, pe-

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dagogical competence, competency training, work experience, supervision, professional development of teachers, and level of education.

The results showed that all factors that affect the quality of teachers in all education units had a strong correlation with the quality of teachers in the digital era in Indonesia, this relationship can be seen from the summary effect with a fixed-effect model of 0.564 with r value of 0.44 in the strong category. The results of the funnel plot describe 104 studies that examine the relationship or influence of teacher quality on all and each educational unit showed that there was no publication bias (Egger et al., 1997; Rosenthal, 1991). It was judged by the absence of an open circle in the plot funnel image of the fixed effect model. In addition, the absence of bias publications was reinforced from the results of forest plots, where before and after using the Trim and Fill method showed a summary effect with the same results from the fixed effect model (Khadijah et al., 2021; Li et al., 2021). Thus, the relationship or influence of all identified factors showed valid results and all factors had a relationship or influence on the quality of teachers in the digital era in Indonesia protected from potential publication bias.

All factors identified have a strong correlation to the quality of teachers in the digital era in Indonesia. However, there were seven factors that were predominantly used in the study from 2012 to 2022. These factors included: work motivation, the principal's leadership style, work discipline, work environment, work culture, and performance.

Motivation can affect the quality of teachers. The existence of motivation will develop teachers' creativity; thus, it will be easy to have a career both at school and outside of school. Besides, teacher creativity can help develop students' talents (Bicer et al., 2021; Mujiyanto et al., 2022). Low teacher motivation can result in poor quality of education in schools. Therefore, the principal as a motivator for teachers plays an important role in motivating teachers so teacher performance increases which has an impact on improving school quality (Ramlang et al., 2022). Motivation is an impetus in oneself to achieve high performance in an organization (Adelfina et al., 2022). Teachers who have positive motivation will show interest, have attention, and want to participate in an assignment or activity at their school (Ardiana, 2017).

The principal as a motivator for teachers plays an important role in motivating teachers (Ramlang et al., 2022). The way that is done in motivating teachers certainly cannot be separated from the leadership style as a principal. A good leadership style will produce a good quality of teachers, while a bad leadership style will have a bad impact on the quality of teachers (Johanes et al., 2022). This method certainly cannot be separated from the ability to provide constructive8 influence to teachers in carrying out a cooperative effort to achieve the goals that have been declared so that the quality of teachers can improve (Susanto, 2012). The principal can provide understanding and guidance and role models for teachers in carrying out professionalism as educators, so this can improve work discipline for teachers in the school environment (Johanes et al., 2022).

The increasing discipline of teacher work in the school environment reflects the quality of good teachers (Itang, 2015; Setiyaningsih, 2020). The higher the work discipline in teachers, it can help improve teacher performance (Gabriella & Tannady, 2019; Hendrawijaya et al., 2020). The work discipline of a teacher can be seen from the teacher's compliance with the regulations in force at school. High teacher performance cannot be achieved if it is not accompanied by the absence of compliance with applicable regulations in carrying out work (Purwoko, 2018). Good work discipline can improve teacher work performance achieved by teachers and in the end can improve the quality of schools (Lubis, 2020). Good work discipline can be affected by the conditions of the working environment.

The creation of a good work environment can improve the quality of teachers (Maryati & Hanggara, 2022). The work environment is important to support the achievement of school goals in conditioning teachers to achieve high performance and be tenacious at work. One of the conditions of a good work environment can be done by maintaining a harmonious rela-

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tionship with fellow colleagues to make you feel at home working at school (Tilawati, 2021). the harmony of relationships established between fellow colleagues can improve the quality of teachers and achieve the goals of school organizations so that the quality of schools improves.

A good work environment shows a good work culture for teachers in carrying out the learning process (Pratiwi et al., 2021). A conductive school organizational culture is a requirement for the implementation of an effective teaching and learning process (Handayani & Rasyid, 2015; Setiyati, 2014). A work culture that is conducive to the workplace can be a supporting factor for improving the quality of teachers, because comfort in work makes teachers think calmly and is concentrated only on the tasks they carry out (Hendrawijaya et al., 2020; Pratiwi et al., 2021; Tilawati, 2021).

Performance allowance is one of the government's efforts to improve the quality of teachers. The allowance provided by the Indonesian government in improving the quality of teachers is carried out through the provision of certification for teachers who pass the educator competency test (Murwati, 2012). The competency test includes, pedagogic, professional, personality and social competency tests. Through the provision of performance allowances, it is hoped that teachers who have been certified will perform better than teachers who have not been certified (Koswara & Rasto, 2016). The existence of appropriate work allowances can improve the quality of teachers, but if the teacher performance allowance is not satisfactory, teacher performance will decrease (Hendrawijaya et al., 2020).

It is necessary to achieve targets that must be implemented to improve the quality of teachers, one of which is the efforts of teachers in developing themselves. This is expected to improve the quality of teachers in each education unit. The higher the quality of teachers, the higher the quality of education (Kartowagiran et al., 2019). In addition, currently the government has allocated a lot of funds for teacher certification programs to support teacher performance. Therefore, every teacher in the 21st century must be ready and able to educate, teach, guide, direct, train, assess, and evaluate students professionally.

CONCLUSION

The results showed that all factors detected in previous studies had a significant correlation to the quality of teachers in the digital era in Indonesia. It was based on the p-value of $<\alpha$ (0.05) at 95% confidence level so that the relationship between the two variables can be concluded strongly with a confidence interval of 0.422-0.450 and r of 0.436. 104 studies that examine the relationship or influence of teacher quality on all and each educational unit showed that there was no publication bias judging from the acquisition using the Trim and Fill method. Future research can be carried out by identifying factors that affect the quality of teachers in kindergarten education units, this is because studies related to the quality of teachers in these education units are still limited. In addition, future research can be carried out in wider areas and includes representatives from every province in Indonesia.

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