Confirming the Effect of Motivation on Teacher Performance in Elementary School: a Meta-Analysis

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Abstract **– This study aims to advance our understanding of the effects of job motivation on performance in elementary school teachers by conducting a meta-analysis. The research sample consisted of 40 leading articles. The results of the summary effect demonstrate that teacher motivation has a favorable impact on elementary school teachers' performance. However, further analysis showed that published articles have publication bias. The researcher recommends that policy makers and school leaders should conduct more research to manage teacher motivation and maintain its influence on teacher performance. Stakeholders should also pay attention to teacher satisfaction as an integral part of performance.**

Keywords **– work motivation, performance, meta analysis.**

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1. Introduction

Numerous research has looked at how work motivation affects teachers' performance. Theoretically, motivation is actually expected to produce optimal performance for teachers [1]. However, according to a study [2], there are inconsistent differences in the impact of motivation on teacher performance. Long before, the results of Miskel et al. discovered that while motivation had a substantial impact on job satisfaction however a minimal impact on teacher performance [3]. In another study, Cuevas et al. found that the possibility of variations in the influence of teacher motivation on performance is very likely to occur due to other factors attached to the performance, in contrast to job satisfaction [4]. Job satisfaction is not attached to certain demands, that must be achieved by the teacher, while in performance there are certain demands and achievement criteria that make variations in the influence of motivation occur between teachers [4]. Even so, it's critical to keep motivation as a key factor so that teachers can maintain good work performance, especially on increasingly competitive academic assignments [5].

Referring to the findings of these studies, the researcher observed forty articles published in accredited national journals in Indonesia to confirm the pattern of influence in the performance of Indonesian elementary school teachers' work motivation. Based on these initial observations, the researchers found that there was a wide range of variations in the correlation coefficient on how elementary school teachers' performance is affected by their level of work motivation, ranging from 0.17 to 0.944 [6]. The gap in the correlation coefficient appears to be far apart so that the phenomenon proposed by Miskel et al. [3] is confirmed and still occurs in Indonesia, especially in elementary schools.

In fact, teacher performance in elementary schools is a crucial aspect considering that elementary school

is a very important initial level for students to get meaningful learning as a provision for the next level of education and student success in the future [7], [8], [9].

This study aims to sharpen the understanding related to the effect of elementary school teachers' motivation at work on their performance through meta-analysis. This goal was achieved by 1) conducted a meta-analysis of forty papers on the effect of job motivation on elementary school teachers' performance, and 2) in the meta-analysis, publication bias was examined. Gene Glass developed the meta-analysis in 1976, and it has since been widely used to draw conclusions from numerous quantitative research using the same observed variables throughout time [10]. In meta-analysis, replication of findings in the form of quantitative analysis results from previous studies is recorded and re-analyzed to obtain patterns and conclusions from the observed phenomena [10]. Thus, researchers can draw conclusions from the variation in the data on the motivation's impact on the performance of current elementary school teachers and find possible causes for the inconsistency of the findings. The results of this study will be helpful in bolstering the theoretical framework around work motivation and its effect on elementary school teachers' performance. The strength of the theoretical framework will certainly have implications for the stability of policy making related to the management of teacher work motivation in elementary schools and further exploration of how to produce teacher work motivation that is relevant to the work characteristics of teachers in elementary schools.

2. Theoretical Framework

Teachers are important elements in the education system, so their performance is something that needs to be considered [11]. Various learning theories and research results have shown that students' academic achievement is primarily determined by the teacher's capacity to deliver meaningful learning in the classroom. The teacher's performance in instructing students is used to gauge this capacity. Call it the theory of behaviorism, cognitivism, and constructivism, although they have different characteristics in teaching, these theories still place the teacher as a learning designer who is responsible for generating the growth of student knowledge [12], [13], [14], [15], [16]. Thus, teacher performance becomes a key variable in learning management to ensure students get a meaningful learning experience.

Hanson & Borman [17] revealed that performance can be defined as activities that are crucial to achieving organizational objectives and are evaluated by looking at individual contributions to the effectiveness of achieving these goals. The contribution was observed referring to the expertise of each individual in completing his work [18] and the accuracy with which he completed the work or responsibilities entrusted to him [19]. In the field of education and teaching, Kartini, Sujanto, & Mukhtar [20] formulate several indicators related to teacher performance, namely 1) teacher understanding of the tasks that must be carried out, 2) teacher fullness in completing assignments; 3) the quality of the teacher's work, and 4) the benefits of implementing the teacher's duties on the academic success of students. Thus, teacher performance refers to a broad and complex aspect of achieving a learning process that results in students' knowledge growth [21], [22], [23]. Given the heavy workload of teachers, teachers need strong encouragement in carrying out their work and in order to achieve certain performance standards.

How well teachers perform is influenced by both internal and external factors, including leadership, management, work environment, pay, motivation at work, interests, educational background, and emotional intelligence [24], [11]. From these factors, work motivation is the variable that most appears as an important antecedent of teacher performance [2], [3], [4], [5], [25], [26], [27], [28], [29]. Most education management studies that review teacher performance involve work motivation as one of the observed antecedents. Therefore, it is reasonable to suspect that motivation is the main antecedent of various variables that may affect teacher performance.

Likewise, various research findings related to the effect of motivation on teacher performance show very diverse correlation coefficients. The diversity of variations results in confusion in concluding how important the role of motivation in teacher academic performance is. Theoretically this can lead to an understanding bias regarding the position and role of motivation in producing teacher performance compared to other antecedents. Furthermore, in practice, this confusion can result in schools being indecisive in managing teacher motivation, which in turn results in inappropriate policies in managing teacher performance.

Consequently, in an effort to derive broad conclusions from the variety of study findings that take place, this study employs a meta-analysis methodology. Meta-analysis is used to analyze empirical research, quantitative research, and research in a comparable form (eg: mean, correlation coefficient and odds ratio).

Meta analysis is a special research method to combine studies whose effect size (r) can be measured, then the data is processed and then used to make statistical conclusions [30]. Thus, this research

was carried out in several stages. First, it compiles data from published studies that are pertinent to the correlation coefficient's value and the importance of the link between teacher performance and work motivation.The publications gathered were from Indonesia and published in accredited journals. Second, tabulate the coefficient and significance data. Third, do a meta analysis. Finally, draw valid conclusions from the variability of the correlation coefficient and its significance.

3. Research Method

In this quantitative investigation, research objects are combined and statistically evaluated depending on the results of earlier studies [30]. This study's meta-analysis uses the association between elementary school teachers in Indonesia's performance and work motivation. This study uses forty studies published over the past period from 2004 to 2020 in reputable national journals. The data recorded from these articles are data on the correlation coefficient and the significance of the correlation between elementary school teachers' work motivation and performance. The research results from these articles are used as the basis for calculating the effect size, a quantitative index, and a standard value that summarizes the studies' findings from the meta-analysis. [30], [31], [32].

Data were extracted from subject studies to collect appropriate and standardized data for this study's coding [31], [33], [34]. The coding criteria in this study include sample information (year of publication and sample) and quantitative description (sample size, values of *r*, *F*, and *t*). After coding, the effect size calculation comes next.

Furthermore, this study uses random effects analysis to obtain a confidence range and effect size [35], [36]. The random effect model is used because it can increase the level of confidence which in turn can increase the population-wide applicability of research findings and in future conditions [37]. Since the input data for this study consisted of three different criteria, namely the r-value, t-value, and F-value, this study used the Fisher's z scale to control standard error problems when the cumulative effect was derived [35]. Subsequently, Fisher's z-scale scores were transformed back to correlation coefficients and provided 95% confidence ranges to aid interpretation [30], [38], [39], [35].

Heterogenity test

After calculating the effect size, the researcher calculates the effect size of the aggregation impact, sometimes called the summary effect.

Summary effects are generally analyzed using a fixed model and a random model [30]. The fixed model presupposes that the true effect size [θ] for each study included in the analysis is the same and that any changes in the reported effects are due to sampling error. The true effect size is considered to vary between studies in the random effects model, in contrast. To determine which analysis model is used, heterogeneity test is carried out. The heterogeneity test on correlation was carried out using the parameter Q (the square of the weighted number) with the following equation: $Q = \sum W_i\,(Y_i - M)^2$. After calculating the value of Q, it is continued to calculate the degrees of freedom (*df*), where $df = k - 1$. If the p-value for Q with degrees of freedom (*df*) is less than α then H_0 is rejected, consequently, it may be concluded that the used studies the true effect are not the same. [30].

4. Result

The results of this study were analyzed by (1) determining the average weighted effect; (2) determine the confidence interval; (3) test the significance; and (4) examination of publication bias. Through the meta-analysis, the three analyzes are known as the summary effect [30]. The Comprehensive Meta Analysis tool JASP 0.11.1.0 (https://jasp-stats.org/previous-versions/) is used in this study's meta-analysis process, and the random effect model is used to explain the data. Examining the variation in actual effect size between several studies can help identify the random effect model [39]. The demographics of the sample articles Table 1 in this study provides an overview.

Of the forty articles that were collected there were three identified articles that calculated the *t*-value. The value is transformed to get the value of r. After finding the value of r, the effect size and summary effect are calculated.

Estimating the value of C is important for analysis using the random effects model and tau squared (τ^2) but first estimate the value of Q. The value of Q is obtained by the equation:

$$Q = \sum W_i\,{Y_i}^2 - \frac{(\sum W_i Y_i)^2}{\sum W_i}$$

$$Q = \sum W_i\,{Y_i}^2 - \frac{(\sum W_i Y_i)^2}{\sum W_i} = 2.462{,}051 - \frac{(2.618{,}048)^2}{3855} = 684{,}055$$

Then estimate the value of C and tau squared (τ^2):

$$C = \sum W_i - \frac{\sum {W_i}^2}{\sum W_i} = 3855 - \frac{503.091}{3855} = 3.724{,}496$$

$$\tau^2 = \frac{Q - df}{C} = \frac{684{,}055\ - 39}{3.724{,}396} = 0.173$$

Table 1. Demographics of Sample Articles

No	*Researcher*	*Year*	*n*	*r*	*Y(z)*	*SE (transf)*	*Vy*	*T^2*	*$Vy+T^2$*	*W**	*W*Y*
1	Rina, Saputra, & Darmanto	2020	10	0.675	0.820	0.378	0.143	0.173	0.316	3.164	2.594
2	Werang, Irianto, & Asmaningrum	2019	78	0.864	1.309	0.115	0.013	0.173	0.187	5.361	7.017
3	Sumarmi, Egar, & Nurkolis	2019	206	0.767	1.013	0.070	0.005	0.173	0.178	5.614	5.687
4	Hidayati, Putrawan, & Mukhtar	2019	84	0.513	0.567	0.111	0.012	0.173	0.186	5.390	3.055
5	Sugito, Suyitno, & Kuntoro	2019	50	0.496	0.544	0.146	0.021	0.173	0.194	5.142	2.797
6	Trisnowati	2019	55	0.551	0.620	0.139	0.019	0.173	0.192	5.197	3.221
7	Ritonga & Ramadhani	2019	33	0.544	0.610	0.183	0.033	0.173	0.207	4.842	2.953
8	Asmalah	2018	83	0.246	0.251	0.112	0.013	0.173	0.186	5.385	1.353
9	Kuswoyo, Komara, & Junaedi	2018	190	0.784	1.056	0.073	0.005	0.173	0.179	5.601	5.913
10	Pratama	2018	146	0.871	1.337	0.084	0.007	0.173	0.180	5.550	7.421
11	Ritonga	2018	35	0.812	1.133	0.177	0.031	0.173	0.204	4.891	5.541
12	Astuti	2017	71	0.248	0.253	0.121	0.015	0.173	0.188	5.322	1.348
13	Mawaddatullin	2017	63	0.604	0.699	0.129	0.017	0.173	0.190	5.267	3.684
14	Erpidawati & Adri	2017	70	0.944	1.774	0.122	0.015	0.173	0.188	5.316	9.428
15	Masruri, Abdullah, & Egar	2017	97	0.646	0.768	0.103	0.011	0.173	0.184	5.440	4.180
16	Rohmawati	2017	76	0.483	0.527	0.117	0.014	0.173	0.187	5.351	2.819
17	Saragih	2017	30	0.475	0.517	0.192	0.037	0.173	0.210	4.757	2.457
18	Yasin	2017	72	0.270	0.277	0.120	0.014	0.173	0.188	5.328	1.475
19	Awe	2016	188	0.468	0.508	0.074	0.005	0.173	0.179	5.599	2.842
20	Fredianto	2016	54	0.873	1.346	0.140	0.020	0.173	0.193	5.187	6.979
21	Sedarmayanti & Safer	2016	40	0.861	1.297	0.164	0.027	0.173	0.200	4.995	6.479
22	Sumarsih	2016	214	0.425	0.454	0.069	0.005	0.173	0.178	5.620	2.550
23	Sunarto	2016	125	0.927	1.637	0.091	0.008	0.173	0.181	5.513	9.023
24	Asrori, & Hidayat	2016	16	0.777	1.038	0.277	0.077	0.173	0.250	3.998	4.149
25	Supardi	2016	142	0.170	0.172	0.085	0.007	0.173	0.180	5.544	0.952
26	Yawan, R	2016	72	0.941	1.747	0.120	0.014	0.173	0.188	5.328	9.307
27	Ariana, Dantes, & Lasmawan	2015	60	0.623	0.730	0.132	0.018	0.173	0.191	5.243	3.827
28	Rismawan	2015	200	0.390	0.412	0.071	0.005	0.173	0.178	5.610	2.310
29	Andari	2015	78	0.672	0.814	0.115	0.013	0.173	0.187	5.361	4.366
30	Khairunnisa	2015	134	0.383	0.404	0.087	0.008	0.173	0.181	5.530	2.232
31	Untara & Liana	2014	116	0.320	0.332	0.094	0.009	0.173	0.182	5.493	1.822
32	Isbahi, M. F.	2013	217	0.625	0.733	0.068	0.005	0.173	0.178	5.622	4.122
33	Sutama, & Dantes	2013	63	0.325	0.337	0.129	0.017	0.173	0.190	5.267	1.776
34	Sukrisna & Trisnowati	2013	70	0.486	0.531	0.122	0.015	0.173	0.188	5.316	2.822
35	Aslindawati, Caska, & Mahdum	2013	114	0.537	0.600	0.095	0.009	0.173	0.182	5.488	3.293
36	Pranoto	2013	79	0.510	0.563	0.115	0.013	0.173	0.186	5.366	3.020
37	Destiyani	2012	132	0.240	0.245	0.088	0.008	0.173	0.181	5.527	1.353
38	Yuliejantiningsih	2012	202	0.226	0.230	0.071	0.005	0.173	0.178	5.611	1.290
39	Kartikasari & Ernawati	2009	97	0.292	0.301	0.103	0.011	0.173	0.184	5.440	1.636
40	Sugiyono, S	2004	113	0.456	0.492	0.095	0.009	0.173	0.182	5.486	2.700
										211.062	**151.792**

Processed data sources (2022)

Using the information in Table 1. which is the outcome of the effect size computation, the weighted effect's average value (summary effect) is obtained $M^* = \frac{\sum W_i^* Y_i}{\sum W_i^*} = \frac{151.792}{211.062} = 0.719$, the variance of the weighted effect average is $V_M^* = \frac{1}{\sum W_i^*} = 0.0047$, and the standard error is $SE_{M*} = \sqrt{V_M^*} = 0.069$. The weighted effect's 95% significance level is between 0.584 and 0,854 for the mean confidence interval (M^*). The summary effect statistics are displayed in this fashion in the forest plot in Figure 1.

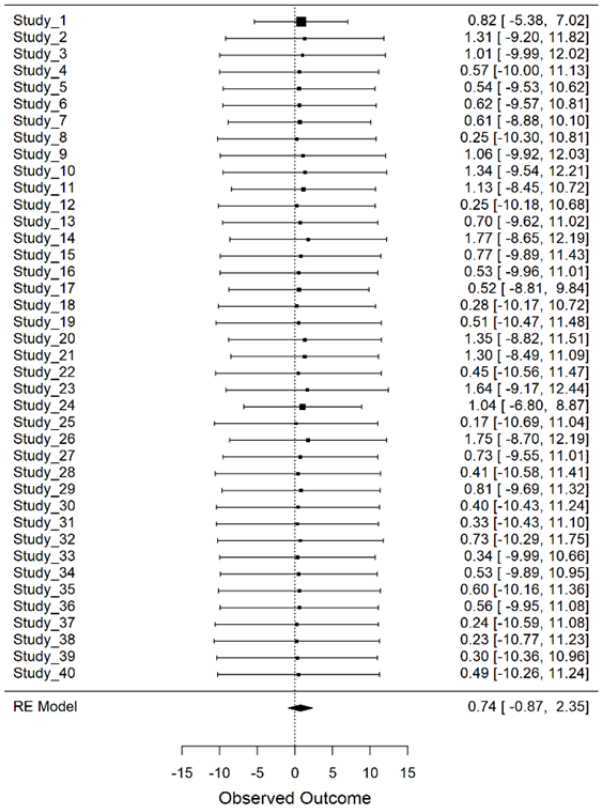

Figure 1 Random Effect Model for the Forest Plot Summary Effect

The null hypothesis was tested by calculating p and Z^* values. For one-tailed tests, the p-value is: $p = 1 - \Phi(\pm|Z^*|)$, while for two tailed tests, it is: $p = 2[1 - \Phi(|Z*|)]$. Where $\Phi(|Z*|)$ stands for the usual form of the cumulative normal distribution's for random models (Retnawati et al., 2018). From the calculation results, obtained the value of $Z^* = \frac{M^*}{SE_{M*}} = \frac{0,719}{0,069} = 10,448$, and the value of p = 0,00. A p-value less than α (0.00 < 0.05) indicates that H_0 is rejected at 95% significance, both one-sided and two-sided. As a result, it can be concluded that primary school teachers' performance and job motivation are strongly associated.

Furthermore, to find out whether work motivation and teacher performance have a strong or weak relationship, it is done by changing the average of the weighted effects (M^*) to the correlation coefficient (r). [40] interpreted the effect as marginal (r = 0.10), substantial (r = 0.30) and strong (r = 0.50). Based on the calculations, the value of r = 0.616 with a confidence interval of 0.526 - 0.693, then the relationship that occurs is included in the strong category.

Next, detection of publication bias was carried out in the forty studies that were used. Research that reports a comparatively more significant effect tends to be published more often than research that says a relatively more minor impact in cases of publication bias [30]. Studies with statistically significant results, which vary from 61% to 88%, are more likely to be discovered in the published literature than studies with insignificant results [30], [41]. Therefore, the researcher deems it necessary to detect publication bias to confirm whether the consistency of the results is weakened by publication bias. Detecting publication bias is done using the JASP 0.11.1.0 software by reviewing the rank correlation and regression technique, the funnel plot, and Trim and Fill approaches.

Analysis of Publication Bias

The impact of publication bias is that the results or information produced are inaccurate because the published literature may not represent the research that has been done on a topic. Incorrect conclusions that occur in meta-studies can result in wrong decision making [42]. In education management, mismanagement of educational institutions can result in poor school effectiveness in teaching students [43]. Because there is no publication bias and the sample error is random, the summary effect (M) study will be distributed symmetrically. On the other side, if there is a publication bias, the funnel plot in the meta-analysis will be asymmetrical [42], [30]. The asymmetric funnel plot indicates that there is an imbalance of research results between the publications that are sampled. There are many allegations of this discrepancy, including non-rigorous research methods, less rigorous data analysis techniques, different characteristics and sample sizes, and avoidance of publication of research with insignificant results [42]. Therefore, analysis on publication bias becomes very important in meta-analysis so that researchers avoid wrong information and make wrong decisions. Figure 2 in this study's funnel plot results show the findings.

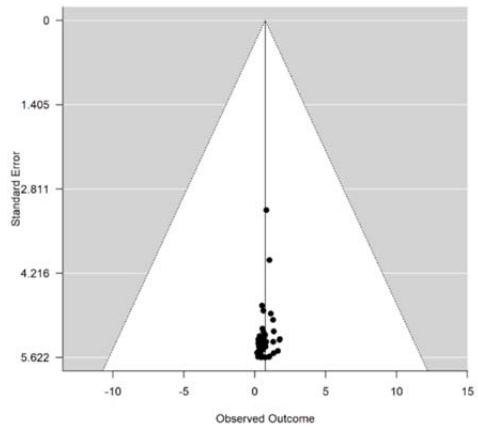

Figure 2 Funnel Plot Random Effect Model

Using the funnel plot in Figure 2, the meta-studies analysis's were dominated by studies with small sample sizes. If you look closely, the entire study appears to be symmetrically distributed but there is a void on the right side. That is, even though it looks balanced, the meta-analysis has the potential to have publication bias. Related to this finding, Duval and Tweedie [44] suggest that funnel plots describe publication bias subjectively based on the plots depicted in the diagram. Meanwhile, there could be publication bias in the empty space in the plots because there are research results that may not be published [44]. Therefore, to review publication bias further, this study conducted an analysis on the Funnel Plot, rank regression and correlation.

The rank correlation proposed by Begg & Mazumdar [45] intends to investigate the relationship between the sample variance and the estimated intervention effect. Meanwhile, the regression method was proposed by Egger, Smith, Schneider, & Minder [42] which seeks to investigate the linear relationship between the standard error and the estimation of the intervention effect. In general, the regression approach outperforms rank correlation. [30], [46]. The output produced by JASP regarding the rank correlation and regression method of the funnel plot can be seen in the table below:

Table 2. Rank Correlation and Regression from Funnel Plot

Rank correlation test for Funnel plot asymmetry		
	Kendall's τ	**p**
Rank test	-0.179	0.105
Regression test for Funnel plot asymmetry ("Egger's test")		
	z	**p**
sei	-0.081	0.936

Processed data sources (2022)

Rank correlations for funnel plots review publication bias based on Kendall's value. The publication bias criteria is viewed from the p-value < α (0.05). If the p-value < 0.05, then the meta analysis indicates publication bias, while if the *p-value* (0.05) it shows no sign of publication bias [31]. Findings from the analysis, displayed in Table 4, reveal that the meta-analysis is not indicated by publication bias. Furthermore, this study found a negative rank correlation value (-0.179) which shows that the sample meta-analysis did not include research with large sample numbers. This occurs when studies with a small sample size dominate the publications utilized in the meta-analysis, and the regression test uses the coefficient of the estimated bias (-0.081). Based on this value, it can be concluded that our ability to identify bias using rank correlation and regression techniques is insufficient. Thus, further analysis is needed to further review the publication bias condition in this meta-analysis. Furthermore, the researcher conducted a Trim-Fill analysis as a follow-up analysis.

The Trim and Fill approach is used to determine whether there may be publication bias due to some study results not being published [44]. Using the Trim and Fill technique, asymmetric meta-analytical data with publication gaps is attempted with dummy data and review its estimates using a new funnel plot [44]. The results of this analysis may be seen in Figure 3 funnel plot.

In the Funnel Plot, there are white dots which are simulations of the inclusion in research that is thought to be missing in the analysis and in Figure 4. The outcomes of the summary effect are visible after the missing study is included in the calculation [30]. From the forest plot image, it is assumed that there are 6 dummy studies included so that the funnel plot becomes symmetrical. This situation indicates that the meta-analysis on the effect of elementary school teachers' work motivation on their performance has a publication bias. Furthermore, in Figure 4, it can be seen that following the Trim and Fill approach, the forest plot display demonstrates how the random effects model's summary effect has shifted or increased compared to the summary effect before Trim and Fill. In conclusion, the Trim and Fill study demonstrated publication bias as proof and was discovered to have a distinct summary effect from earlier studies.

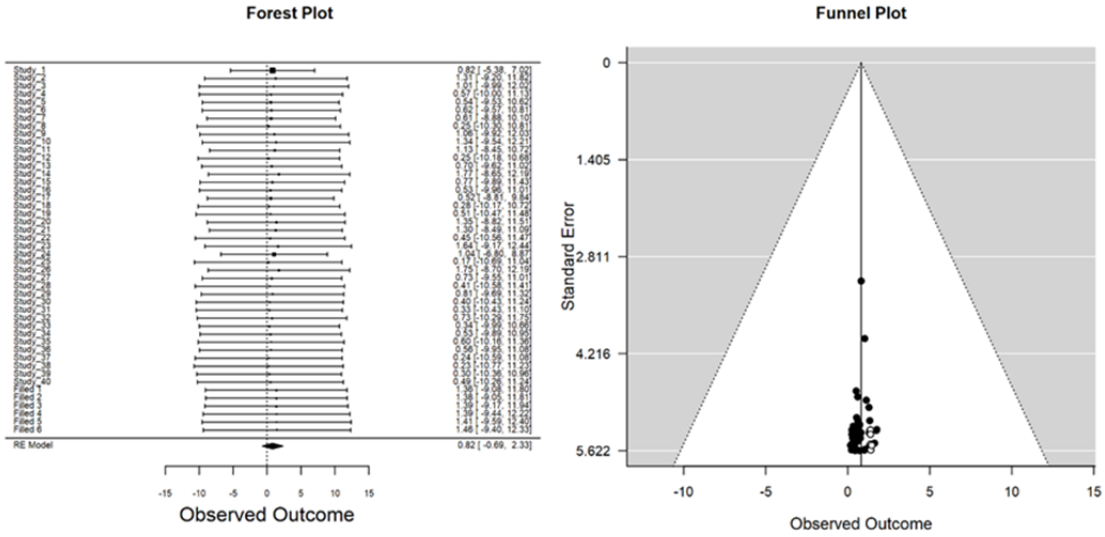

Figure 3 Forest Plot and Funnel Plot Summary Effect Trim-Fill Method

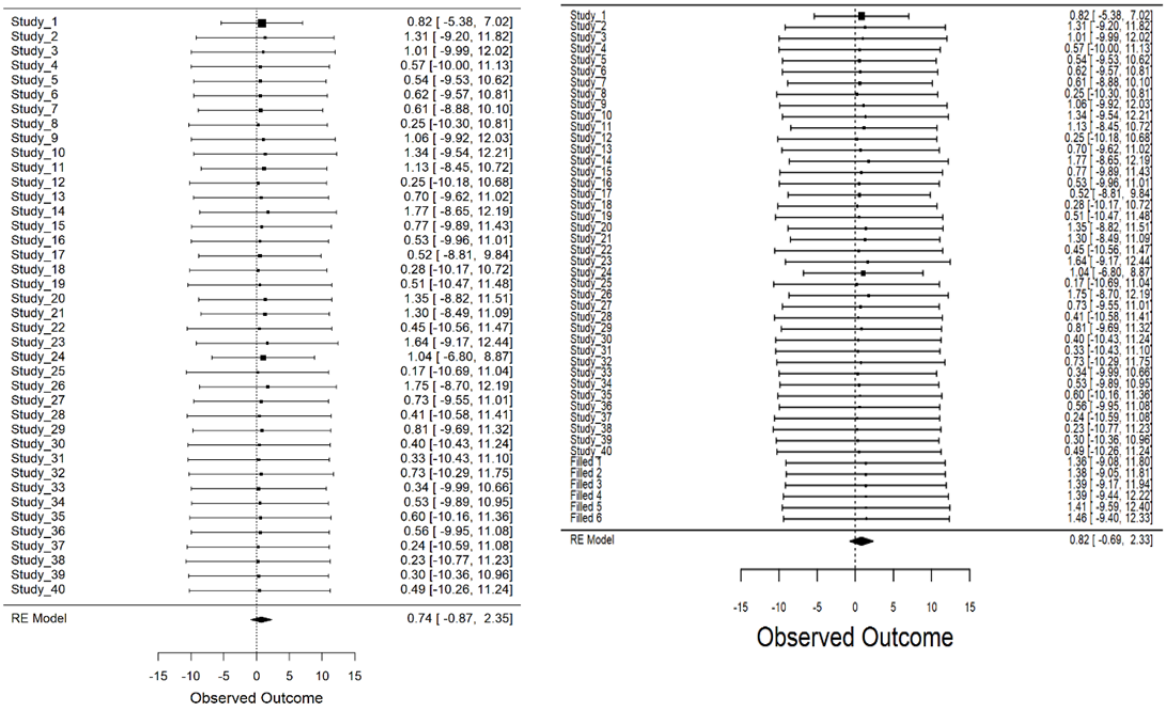

Figure 4 Using the Trim-Fill Method, compare the forest plot before (left) and after (right).

5. Discussion

Based on the summary effect meta analysis, this study discovered that work motivation significantly influence teacher performance. This finding certainly strengthens education management studies which suggest that work motivation affects teacher performance [47], [26], [4], [28], [2], [3]. This finding is also consistent with motivation theory which states that someone with high motivation will show a more optimal quality of work and work intensity compared to people with low motivation [48], [49]. Motivation is indeed able to generate energetic power so that a person can produce certain performance outputs [20].

However, these strengths can come from internal or external of individuals and their impact on performance outputs varies [24]. Although, of course, people with higher motivation generally have better performance [49], [11].

Furthermore, what makes this meta-analysis study fascinating is the discovery of signs of publication bias. The publication bias test has been carried out in three stages, namely 1) funnel plot observations; 2) testing using rank correlation and regression; and 3) method of Trim and Fill. In the first stage, publication bias is not very visible, but in the second stage it is indicated that the data availability has not been able to show publication bias with funnel plots.

Furthermore, in the third stage, it was found that there were indications of unpublished studies in related fields. Indications that the results of research in related fields are not published, certainly result in the publication bias and of course has implications for the conception of the relationship between teachers' motivation and students' learning results in Indonesian primary schools.

Publication bias, as it manifested in this study, is not a recent phenomena. Publication bias generally occurs, because the number of publications that the meta-analysis included as samples has a proportion that is not representative [46], [44]. Meanwhile, at the same time, published research generally has a tendency to have positive significance or support the theory [42]. On the other hand, there are studies that either because of poor results, lack a meaningful discussion, or for various other reasons fail to get published [50], [44]. The failure of these publications has an impact on the accessibility to the public and other researchers to access the research and in turn produces a gap in the phenomenon that can be observed. In other conditions, publication bias may occur due to differences in the results of data analysis from sample studies, both in significance, standard error and correlation coefficient [42]. These differences may occur due to differences in sample characteristics, caution in using analytical tools, caution in research methods, and differences in sample size [42]. In this meta-analysis, there are signs of publication bias for both of the aforementioned circumstances. First, it is suspected that there are unpublished studies related regarding how elementary school teachers' performance is impacted by their motivation. Second, there is a gap of variation in the correlation coefficient and sample size. The variability of the research location is also possible to be the cause of publication bias through the correlation coefficient gap. However, in particular, the variability of the research location is unavoidable given the vast territory of Indonesia and the researchers' efforts to maintain the inferentiality and generalization of this meta-analysis findings.

This publication bias is an important finding in this study. Publication bias indicates that published research results do not represent the whole population [46]. Research publications that are not representative can have implications for non-objective decision making [42], [44]. In the field of education, decision-making errors can certainly have implications for teacher performance, student learning performance, and in general on school performance [18], [17]. In relation to motivation, principals need to be careful in defining motivation about the extent to which motivation can improve teacher performance.

In making decisions about the management of teacher motivation, principals need to conduct further research in their schools to identify more specifically the characteristics of teacher motivation and what are the drivers of that motivation. So that the principal's expectations when managing teacher motivation can be achieved with the presence of optimal teacher performance. At the same time, principals need to carefully define teacher performance. Teachers have a lot of workloads whose benchmark results are found in student learning outcomes. However, teacher performance cannot solely rely on student learning outcomes because there are many process factors involved in indicating teacher performance. Then, of course, there are many other factors that cause dissonance in teacher performance in teaching so as to reduce their impact on student learning outcomes. These things should be suspected to be the cause of the wide variation in the correlation coefficient between motivation and teacher performance. Therefore, research related to this topic must involve other antecedents and control for extraneous variables that may bias the results of the study.

6. Conclusion

This study's goal was to better understand the effect of elementary school teachers' motivation at work on their performance by using a meta-analysis. This objective was achieved in two stages, namely 1) reviewing the summary effect of forty articles published in leading journals in Indonesia; and 2) review the publication bias of these publications. The summary effect on the meta-analysis in this study shows that in Indonesia, elementary school teachers perform better when they are motivated at work. Furthermore, the publication bias examiner indicated that the publications related to the topic indicated bias. These meta-analysis conclusions have implications for the decision-making of principals who must be careful in managing teacher motivation. Education researchers also need to analyze further and in depth related aspects of teacher motivation and performance. Exploration of antecedents of motivation, extraneous variables in learning, and dimensions of teacher performance is an important research agenda to address the gap between the coefficients of how work motivation affects teachers' performance shown by previous studies. Theoretically, motivation is patently known to have an impact on a person's performance. However, the variability of these impacts and how to optimize them is a long and dynamic study.

This study has a limited number of observable publications.

This happens because of the limitation of journal criteria on leading journals in Indonesia and the limitation of the scope in observations on performance of educators in Indonesian territory's elementary schools. Further research can observe the same phenomena with a wider scope of observation and consider other variables that are closely related in influencing the significance of how teachers' motivation affects their performance.

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